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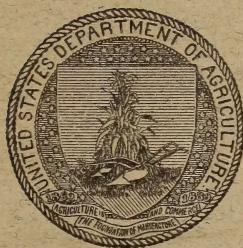
U. S. DEPARTMENT OF AGRICULTURE.
BUREAU OF PLANT INDUSTRY.

INVENTORY
OF
SEEDS AND PLANTS IMPORTED

BY THE

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION
DURING THE PERIOD FROM APRIL 1
TO JUNE 30, 1922.

(No. 71; Nos. 54969 to 55568.)



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GOVERNMENT PRINTING OFFICE.
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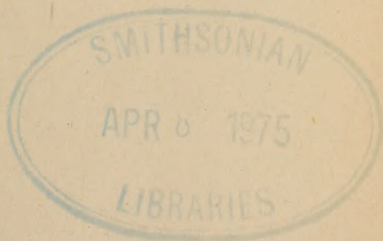
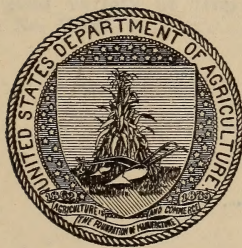
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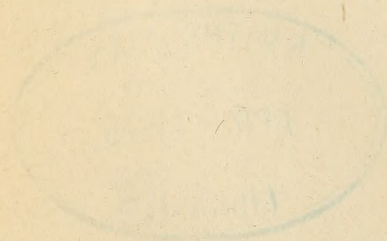
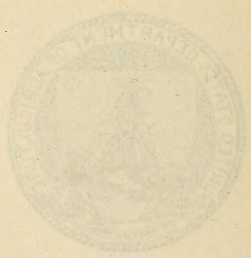
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1922

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INVENTORY OF SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN SEED AND PLANT IN- TRODUCATION DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1922 (NO. 71; NOS. 54969 TO 55568).

INTRODUCTORY STATEMENT.

The migrations of cultivated plants are slow when compared with the spread of ideas or inventions, but it would surprise anyone who has not paid much attention to the subject to learn of the steady flow of new varieties which is going on from the old to the new countries. This inventory represents the stream which is reaching America through the carefully supervised Government channel.

As we look over the immigrants which have arrived during the last three months we are struck with the fact that most of those which are coming in will require a long period of acclimatization, and many of them will need to be bred with those varieties which we already have before they will prove their full value to the country. Just as the human immigrants who arrive at Ellis Island are amalgamating slowly but surely with those who came years ago, so these plant immigrants, many of them at least, will be known by the particular characters which they have contributed to the cultivated plants already here to which they are related; for, like all other living things, the cultivated plants on which we subsist are continually changing under the hands of the plant breeders and through the unconscious process of selection which is always going on.

The fact that these plants which are introduced need to be selected and bred simply emphasizes the lamentable circumstance that there are too few plant breeders in America and too little encouragement is given to those few to carry on this painstaking long-time work of breeding and selecting plants.

The general public has scarcely begun to realize the self-sacrifice and lifelong devotion to its study which the successful plant breeder must give to any plant before he brings about any permanent improvement in it or the ease with which years of effort may be wiped out in a single season of unfortunate occurrences. Neither has the public appreciated that the emoluments which come to the plant breeder are rarely sufficient to cover even the expenses of cultivation and the care which the plants have required, so that at the end of a life of devotion to this work the breeder often finds himself impoverished by the expenses of the upkeep of his collections. It is this condition more than any other which is retarding the development of our cultivated plants to-day, and it is a condition which should be remedied.

This inventory describes under Nos. 55031 to 55039 nine newly originated varieties of Finnish oats sent in from Helsingfors, some of which are reported to be improvements over the Guldregn variety, which is a standard in Finland, and others which are said to be particularly suited for cultivation on swampy land.

Sixty varieties of sorghum have been collected for Mr. Vinall, the sorghum specialist of the department, by the director of agriculture of the Sudan Government from all over the Anglo-Egyptian Sudan in the region tributary to Khartum (Nos. 55106 to 55165).

For the strawberry breeders the Irapuato variety (No. 54976) from the famous strawberry region of that name in Mexico will be of interest.

The search for varieties of corn which may furnish new characters to be incorporated into our American varieties has been extended to eastern Asia, and through our agricultural explorer, Mr. Rock, we have received from the slopes of Doi Chang Mountain, in upper Siam, a variety (No. 55045) which from time immemorial has been grown by the Miaos, those jungle natives who have long inhabited the high mountains of Siam and who are corn-eating people, despite the fact that all around them the Siamese and Chinese subsist on a diet of rice.

For the pear breeders and those particularly interested in the discovery of a better stock than the one we have for the cultivated pear Mr. Rock has secured seeds of *Pyrus pashia* (No. 54998) from the region of Kengtung, Burma, which, according to the information he could obtain, is used by the natives there as a stock for the sand pear. He has also sent in two new forms (Nos. 55497 and 55550) which he found cultivated near Talifu, in the Province of Yunnan.

Whether the sugar cane (No. 55501) which Mr. Rock found in cultivation in the dry arid region of Yunnan at 6,000 feet elevation will prove a shorter season variety than those we now have, only a trial will disclose.

Mr. Rock's discovery and introduction of the new species of cherry, *Prunus majestica* (Nos. 55417, 55476, 55498, and 55500), from this same region of Yunnan, where, he reports, it makes a tree 30 feet high on the exposed dry ridges 6,000 feet above sea level and produces its juicy bitter-fleshed fruits in great abundance in February and March, may mean the origination of cherries for our Southern States or it may mean a new stock for the cultivated cherry of the North which is more drought resistant than the mazzard or the mahaleb.

Whether one or other of these discoveries which Mr. Rock has made will, after the lapse of years, repay him in a measure for the months of hard work and discomfort and isolation which he has been through in his difficult journey into Yunnan from Siam over trails which have never been traveled before by botanists, or whether it will be the loveliness of his new flowering Cassia (No. 55049), which he discovered near Szemao and which in March he found covered with a mass of deep-pink flowers, time alone will show.

From peach seeds introduced several years ago from Valencia, Spain, there have originated at the Chico Plant Introduction Garden two new and, Mr. Morrow believes, particularly promising varieties of peaches for canning purposes (Nos. 55563 and 55564).

As a result of Mr. Popenoe's exploring work in Ecuador there have come in the seeds of two rather unusual varieties of potato from an altitude of 11,000 feet in the Ecuadorian Andes, in Carchi Province (Nos. 55557 and 55558).

From the new Republic of Czechoslovakia a collection of apple varieties (Nos. 55212 to 55232) has been received through the kindness of Josef Mazanek, but whether or not any of them will prove better than our commercial sorts will have to be determined. They are some of the noted sorts of that region.

The introduction of *Microcitrus inodora* from the Bellenden Ker Range of mountains of northern Queensland is of particular interest, inasmuch as this species, according to Doctor Swingle, the citrus specialist of the Bureau of Plant Industry, is the only one of the whole genus which bears fruit in its wild state of sufficiently good quality to make it of promise for cultivation without any improvement. We are especially indebted to C. T. White for the Russell River lime (No. 55447), as it is called in Queensland.

The matasano of Honduras, *Casimiroa tetrameria* (No. 55445), while not so hardy as its relative the white sapote, *C. edulis*, bears much larger fruit, and since it has shown its ability to grow well and fruit in southern Florida its wide dissemination there is considered a matter of importance.

In the category of secondary fruits of value to the housewife for preserves and for stewing appears to be the Indian jujube (*Ziziphus mauritiana*, No. 55485), bushes of which have borne heavily at Miami, Fla. Since in India there are cultivated forms of this fruit, which might be called a kind of southern crab apple, that seem to be superior, it has seemed important to get them.

Doctor Shantz during his explorations in South Africa was so impressed by the possibilities of the narras (*Acanthosicyos horrida*, No. 55486), a species of cucurbit which the Hottentots almost live upon during certain months of the year, that a new importation of the seeds has been made. This cucurbit, which forms spiny thickets in the Kalahari Desert, bears melonlike fruits, the seeds and flesh of which are keenly relished by the natives. If it can be established in our own southwestern deserts it may prove a very valuable acquisition.

The gum arabic of commerce constitutes a specialized industry in Arabia and the east coast of Africa, and although it is doubtful whether labor conditions would make it possible to develop the culture of the gum-yielding species of Acacias in our own deserts, their introduction for the trial seems worth making. Through the kindness of Mr. Massey, Government botanist of the Anglo-Egyptian Sudan, and of the director of the Wellcome Tropical Research Laboratories in Khartum, a collection of the best species has been made (Nos. 55419 to 55423).

The successful introduction by Mr. Rock of the true chaulmoogra-oil-producing species of tree has led to a search for all those other representatives of the Flacourtiaceæ from the seeds of which a similar oil is obtainable, with the result that from Sierra Leone we have secured *Oncoba echinata* (No. 55465), which Dr. F. B. Power assures us has been shown to bear seeds from the oily content of which the true chaulmoogric acid has been isolated. As this is a shrub

and not a forest tree its culture may be more easily accomplished than will be the culture of the Burmese and Siamese trees. Should this be the case the supply of this oil, which has proved so great a remedy for leprosy, may be more quickly insured. The seeds have been supplied by Mr. King-Church, the conservator of forests at Freetown, Sierra Leone, Africa.

In the Plant Introduction Garden at Miami one of the first introductions of the Guatemalan avocado was planted in 1906, and around it were planted other introductions, many of them belonging to the West Indian type. Mr. Simmonds has found this Collins variety a very good stock for our later introductions of Guatemalan avocados, and one of the first of these seedlings to come into bearing has yielded unusually good fruit and shows decided signs of being a hybrid. It has attracted the attention of the growers in Florida, and there has come a demand for it for orchard plantings. We have entered it as a new introduction (No. 55509), calling it the Collinson.

Although it is difficult to wean northerners from the vegetables of their childhood, the scarcity in the summer of green vegetables in the South has made those living there interested in getting forms which will give tender leafy material for greens throughout the hot months. The West Indian spinach (*Amaranthus viridis*, No. 55405) from Montserrat, which Mr. Thompson, of Antigua, assures us produces leaves the size of dessert plates and which throughout the recent severe drought on the island yielded greens twice a week for the table, may be one of these new and valuable summer vegetables.

Dr. Carlos Renson, of Salvador, the discoverer of a species of *Meibomia* which he states is very resistant to prolonged drought and is at the same time an excellent nitrogen gatherer, has sent in some seeds of this new cover crop (*Meibomia rensoni*, No. 55446) for trial, and it is to be hoped that it will do as well in other tropical regions as it does with him.

The wistaria has come to have so important a place in the ornamental horticulture of the temperate zone that we presume it is quite too much to hope that any of the wistarialike climbers will ever compete with it, although we must confess that *Petraea volubilis* as grown in Florida runs it a close second. Sir Hugh Dixson, of Abergeldie, New South Wales, has sent in seeds of *Millettia megasperma* (No. 55565), which bears sweet-scented wistarialike flower clusters of a darker hue than the Chinese wistaria and in his grounds has proved to be a most beautiful decorative vine.

The great similarity of the Atlantic coast of America to that of eastern and even parts of western China makes the trial of a large number of newly introduced species of ornamental perennials and flowering shrubs from Szechwan of unusual interest. Through the kindness of A. K. Bulley, of Neston, England, it is hoped to place in the hands of American amateurs a large collection of new and as yet unidentified species of *Anemone*, *Campanula*, *Caragana*, *Clematis*, *Delphinium*, *Deutzia*, *Euonymus*, *Fritillaria*, *Gentiana*, *Hemerocallis*, *Iris*, *Lilium*, *Lonicera*, *Rhododendron*, and others which have been gathered together by his collector, Dr. F. Kingdon Ward (Nos. 55253 to 55366).

The hibiscus in its various forms is one of the real glories of the Tropics, and through the work of breeding and selection of certain

American amateurs in Honolulu there have been brought into existence some superb varieties which are little known outside of the Hawaiian Islands. Through the kindness of Mrs. J. Rappe Myers, who has gathered together 54 varieties from her various friends, we are now in possession of an extensive collection of these superb forms and shall distribute them in the Tropics (Nos. 55057 to 55064 and 55166 to 55211).

To enrich the park collections of the country we have received from the firm of Vilmorin-Andrieux & Co. some of the rare flowering shrubs which Maurice L. Vilmorin gathered from various parts of the world into his arboretum (Nos. 55071 to 55098). Among them are rare species of *Berberis*, *Buddleia*, *Cotoneaster*, *Deutzia*, *Ligustrum delavayanum*, *Rosa omeiensis pteracantha*, and others.

The botanical determinations of seeds introduced have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared by Paul Russell, who has had general supervision of this inventory.

DAVID FAIRCHILD,
Agricultural Explorer in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., February 10, 1923.

INVENTORY.¹

54969. MYRCIARIA CAULIFLORA (Mart.) Berg. Myrtaceæ.

Jaboticaba.

From Minas Geraes, Brazil. Seeds turned over to this office by the Federal Horticultural Board. Received May 11, 1922.

"The *jaboticaba* is one of the best indigenous fruits of southern Brazil, but like many of the others it has received little attention outside of its native home. Its habit of producing the fruit directly upon the trunk and larger limbs, together with the unusual beauty of its symmetrical and umbrageous head of pale-green foliage, make this a peculiarly striking tree. The tree reaches a height of 35 or 40 feet on rich soil, the leaves are narrowly oval, and the small white flowers are produced singly or in clusters on the bark of the trunk and limbs. The fruit is round, one-half to 1½ inches in diameter, maroon-purple in color, and with a rather thick, tough skin. The translucent juicy pulp, white or rose tinged, is of agreeable vinous flavor. These fruits are eaten fresh or as jelly. The tree would probably prove most suitable for our tropical dependencies, although perhaps it could be grown in favorable spots in southern California and southern Florida." (*Wilson Popenoe*.)

54970. PHLEUM PRATENSE L. Poaceæ.

Timothy.

From Calgary, Alberta, Canada. Seeds presented by G. M. Stewart, district inspector, seed branch, Department of Agriculture. Received May 31, 1922.

"Produced by a grower in one of our irrigated districts. This grower has been producing from one to two carloads of timothy seed yearly and has been using the one strain of seed all the time." (*Stewart*.)

Locally grown seed introduced for experiments in timothy breeding.

54971. VICIA ERVILIA (L.) Willd. Fabaceæ.

Vetch.

From Ariana, near Tunis, Africa. Seeds presented by F. Boeuf, chief, Botanical Service of Tunis. Received May 31, 1922.

Introduced for experiments in the use of vetches as forage crops.

54972. BRASSICA PEKINENSIS (Lour.) Gagn. Brassicaceæ.

Pai ts'ai.

From Min Hsien, Kansu, China. Seeds presented by Willis H. Ruhl. Received June 2, 1922.

A good variety of *Pai ts'ai* from Min Hsien, Kansu, China.

¹ It should be understood that the varietal names of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Seed and Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their identity fully established, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized American codes of nomenclature.

54973. HYLOCEREUS POLYRHIZUS (Weber) Britton and Rose. Cactaceæ.

From Guayaquil, Ecuador. Seeds presented by Dr. Frederic W. Goding, American consul general, Guayaquil. Received June 2, 1922.

"A triangular-stemmed cactus which is very abundant in the region about Guayaquil, where it may be seen climbing the trunks of various trees by means of aerial roots. It is also found in sandy places in the neighborhood of Riobamba, where it does not climb trees. The local name of this cactus is 'pitajaya.' The roundish fruits are 5 to 7 inches long, with a thin, strawberry-red skin inclosing a mass of reddish pulp containing many small black seeds. This pulp is of most delicious flavor, and from it is made a cooling drink, called locally 'refresco,' which is superior to any other I have ever tasted." (*Goding.*)

54974. VICIA FABA L. Fabaceæ. Broad bean.

From Granada, Spain. Seeds purchased from Don Juan Leyva, Granada, by Miss Ola Powell, States Relations Service, through Gaston Smith, American consul, Malaga, Spain. Received April 17, 1922.

"*Habas granadina.* A large, tender bean." (*Powell.*)

Introduced for experiments in the use of broad beans as forage.

54975. DIOSCOREA ESCULENTA (Lour.) Burkill. Dioscoreaceæ. Lesser yam.

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, horticulturist, Porto Rico Agricultural Experiment Station. Received May 4, 1922.

Potato. A small-tubered variety from Africa, resembling the Irish potato and known in Porto Rico as the *Potato* yam. In some places it is considered among the best for home planting, and in a few city markets it brings good prices.

The vines of this variety are slender and round stemmed, with short, strong, sharp spines; there are two longer spines at the base of each leaf petiole. The leaves appear alternately. The edible tubers develop near the crown of the plant much the same as sweet potatoes. They are oval and vary up to 8 inches in length and 2½ inches in diameter. As they are small and not easily injured, these roots can usually be kept longer after being harvested than the large-rooted kinds. They are smooth, dark grayish brown, and at a distance of a few feet are likely to be mistaken for Irish potatoes. The skin is very thin and tough and may, after being broken, be pulled off in strips resembling thin pieces of cherry bark. The interior of the tuber is white, brittle, and firm and practically free from fiber when not allowed to remain too long in the soil; it is over 23 per cent starch. However, tubers which are left in the soil until late in the winter sometimes have a few long and rather strong, longitudinal fibers. When cooked the tubers are fine-grained, tender, and sweeter in flavor than most other varieties.

Since the small yams develop in the surface soil and are not hindered by a compact subsoil, the *Potato* variety thrives best in rich soil and better than most other varieties in clays. It yields poorly in sandy soil and in compact soils produces angular or flattened tubers.

From experiments made in planting at different distances apart it is believed that 3 by 3 feet will give the best results. The variety grows well on ridges or on level land where the drainage is good and the soil is loosened to a good depth. (Adapted from C. F. Kinman in *Bulletin* 27, *Porto Rico Agricultural Experiment Station*, p. 13.)

54976. FRAGARIA sp. Rosaceæ. Strawberry.

From Irapuato, Guanajuato, Mexico. Plants presented by Luis Kan, through Arthur Stockdale, Mexico City. Received May 8, 1922.

"Irapuato is famous throughout Mexico for its strawberries, which supply the markets of Mexico City and many other towns of the highlands. Terry's 'Mexico' says: 'The rich soil of the environing country is favorable to the

growth of strawberries (*fresas*) which are on sale throughout the year. A score or more of venders frequent the railway station and offer the berries in small baskets. The best berries are always carefully arranged on the top; the lower layers are apt to be small, if not decayed,' which shows that the Mexicans are not far behind their northern brethren in the matter of preparing their wares for sale. The elevation of Irapuato is 5,800 feet, the climate rather cool, sub-tropical. I have not been able to learn the history of the Irapuato strawberry fields; probably the first plants were brought here by the Spaniards in relatively recent times and are of European derivation. Only one variety seems to be grown; this is a rather small berry of excellent flavor. It is introduced into the United States for study by our strawberry breeders and for possible use in producing new forms by crossing." (*Wilson Popenoe*.)

54977 and 54978. CERATONIA SILIQUA L. Cæsalpiniaceæ. Carob.

From Valencia, Spain. Pods presented by J. D. Wright. Received May 4, 1922. Quoted notes by Mr. Wright unless otherwise specified.

"Carob pods obtained from 'Masia de Mompo,' the estate of Sr. Pelegrin Contell, near Valencia, Spain, March 29, 1922."

54977. "*Matalafera*. Pods of this quality are borne by Sr. Contell's best trees, including his big tree 'El Capitan.'"

54978. "*Roches*. The pods of this variety are very sweet, but are not borne as abundantly as are those of the *Matalafera*."

54979. TRIFOLIUM REPENS L. Fabaceæ. White clover.

From Milan, Italy. Seeds purchased from Fratelli Ingegnoli. Received April 5, 1922.

"*Ladino giant white clover*. A forage plant of the first order, which will grow in any soil capable of being irrigated. It lives for several years if new seeds are sown occasionally. Four cuttings may be obtained, and it makes better hay than other forage plants; it is the best for fattening stock, and also tends to increase the production of milk." (*Fratelli Ingegnoli, Catalogue, 1922.*)

54980. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Florence, Italy. Seeds obtained through W. Roderick Dorsey, American consul. Received April 5, 1922.

"Medium red-clover seed produced in the vicinity of Bologna, Italy." (*Dorsey.*)

Introduced for experimental work by specialists of the Department of Agriculture.

54981. SOLANUM TUBEROSUM L. Solanaceæ. Potato.

From Cambridge, England. Tubers presented by Prof. R. H. Biffen, School of Agriculture. Received April 7, 1922.

"*Edgecote Purple*. This variety is introduced for the breeding experiments being conducted by J. W. Lesley at Mills College in California. It bears pollen quite freely, and while it is susceptible to the wart disease, it appears to be resistant to the mosaic and leaf-curl diseases. It is also known as the *Wiltshire* variety." (*William Stuart.*)

54982. NYMPHÆA sp. Nymphæaceæ. Water lily.

From Livingston, Guatemala. Plant purchased from Louis Bull, United Fruit Co., through Harry Johnson, Hynes, Calif. Received April 11, 1922.

"This grows in the quiet bays near Jocolo, Izabal, Guatemala, and in general habit is similar to the *gracilis* type. The leaves have sinuate margins and red purple lower surfaces. The white, sweet-scented, diurnal flowers are produced in abundance throughout the year." (*Johnson.*)

54983. DIOSCOREA ALATA L. Dioscoreaceæ.**Greater yam.**

From Trinidad, British West Indies. Tubers presented by Claude Connell, through J. B. Rorer, Board of Agriculture, Port of Spain. Received April 20, 1918, and grown at the Plant Introduction Garden, Brooksville, Fla. Numbered April, 1922.

"This is an unidentified variety of yam from a mixed collection of varieties recorded under S. P. I. No. 45990. The individual tubers of this yam are club-shaped to cylindrical, and thus far in Florida have not much exceeded 4 pounds in weight. They remain perfectly white when cooked and are mealy and of very delicate flavor." (R. A. Young.)

54984 to 54987.

From Honolulu, Hawaii. Presented by Dr. H. L. Lyon, in charge, Department of Botany and Forestry, Experiment Station of the Hawaiian Sugar-Planters' Association. Received April 7, 1922. Quoted notes by Doctor Lyon unless otherwise stated.

54984. CASSIA NODOSA Buch.-Ham. Cæsalpiniaceæ.

"Seeds collected in Honolulu."

Pink-and-white shower. This magnificent flowering tree is one of the most commonly cultivated ornamental plants in Honolulu, where it is much used for street planting. It is a moderate-sized deciduous tree, with long drooping branches and glossy leaves; during May and June it bears a profusion of beautiful, bright-pink, rose-scented flowers in dense clusters on long stalks. It is native from the eastern Himalayas to the Malay Islands and the Philippines. (Adapted from *Rock, Ornamental Trees of Hawaii*, p. 106.)

For previous introduction, see S. P. I. No. 52797.

54985. KLEINHOVIA HOSPITA L. Sterculiaceæ.

"Seeds collected in Honolulu."

A handsome tree 25 to 45 feet or more in height, native to southern India and the East Indies, with heart-shaped leaves about 4 inches long and wide. The flowering panicles are large and full and bear small rose-colored flowers; the inflated papery pods are about an inch long. The tree thrives well in low moist places and is quite suitable for planting along avenues, for which purpose it is used considerably in Calcutta. (Adapted from *Rock, Ornamental Trees of Hawaii*, p. 155.)

54986. PINANGA INSIGNIS Beccari. Phœnicaceæ.**Palm.**

"Seeds collected in the Philippines by F. X. Williams."

A rather small palm with a slender, smooth trunk about 6 inches in diameter, very graceful feathery leaves, and oval fruits 2 inches in length. The seeds are occasionally used as a substitute for betel nuts in preparing "bûyo," the mixture of leaves of *Piper betle*, lime, and betel nuts, which, when chewed, colors the saliva a characteristic red and is held to be a tonic and general stimulant. (Adapted from *Brown and Merrill, Philippine Palms and Palm Products*, pp. 20, 112, and 117.)

For previous introduction, see S. P. I. No. 37607.

54987. UVARIA sp. Annonaceæ.

"Seeds collected in the Philippines by F. X. Williams."

54988 to 54990.

From Matania el Saff, Egypt. Seeds presented by A. Bircher, director, Middle Egypt Botanic Station. Received April 7, 1922. Quoted notes by Mr. Bircher.

54988. BARYXYLUM AFRICANUM (Sond.) Pierre. Cæsalpiniaceæ.
(*Peltophorum africanum* Sond.)

"A handsome evergreen tree with feathery leaves and yellow flowers."

For previous introduction, see S. P. I. No. 50125.

54988 to 54990—Continued.**54989. DIOSPYROS sp. Diospyracæ.****Persimmon.**

"This evergreen tree grows well in Egypt, bearing heavy crops of fruits the size of apples, with dark-brown, sweet flesh."

54990. VANGUERIA INFAUSTA Burchell. Rubiacæ.

"A small tree with sessile woolly leaves and bearing clusters of fruits known as 'Mispel' in South Africa. It resembles *Vangueria edulis*, but is better adapted to a continental climate than the latter, which is a native of Madagascar."

A tree 6 to 7 feet high with dense cymes of greenish flowers and edible globular fruits about an inch in diameter, known as "wild medlars" to the colonists in South Africa. (Adapted from *Sim, Forest Flora of the Cape of Good Hope*, p. 243.)

54991. PYRACANTHA CRENULATA YUNNANENSIS Vilm. Malacæ.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received April 7, 1922.

"A new variety received from Yunnan, China, by Maurice L. Vilmorin; it differs from the type in its greater vigor, longer spines, and less dentate leaves. The shrub attains a height of 1 to 3 meters (3 to 10 feet). As compared with the type, the fruits are a brighter coral red and are smaller but much more abundant; they hang on the shrub until January." (*Vilmorin-Andrieux & Co., 1920-1922 catalogue.*)

54992. CARICA PAPAYA L. Papayacæ.**Papaya.**

From Progreso, Yucatan, Mexico. Seeds presented by O. Gaylord Marsh, American consul. Received April 7, 1922.

"Dr. George F. Gaumer, an American scientist at Izamal, Yucatan, has furnished the following information regarding this variety of the papaya: 'The Maya name is *Chacalhaarput* and the English name *mammey* papaya, the latter name being derived from the fact that the edible part of the fruit is of the same color as that of the *mammey* [*Mammea americana* L.]. The fruit is from 10 to 12 inches long and 3 to 6 inches in diameter, with flesh of a very fine flavor. The milky juice of the unripe fruits contains a large amount of papain, an excellent digestive.'" (*Marsh.*)

For previous introduction, see S. P. I. No. 54330.

54993 and 54994. TRIFOLIUM REPENS L. Fabacæ. White clover.

From Aarhus, Denmark. Seeds presented by S. Sørensen, agricultural attaché, Danish Legation, Washington, D. C. Received April 11, 1922. Quoted notes by Mr. Sørensen.

"Two samples of our best strains of white clover, sent to me by a seed dealer, Fr. Drejer, from Aarhus, Denmark."

54993. "Norso (No. 348)."

54994. "Stryno Hvidklöver (No. 660)."

54995. PHASEOLUS LUNATUS L. Fabacæ.**Lima bean.**

From Kengtung, Burma. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received April 4, 1922.

"(Kengtung, southeastern Shan States. February 1, 1922.) This variety is much cultivated; the green pods are eaten like string beans and the mature ones like Lima beans. These are greatly relished by the Shan people, as well as by Europeans. The seeds are planted in May; and mature pods are obtained in the cold season." (*Rock.*)

54996. FRAGARIA VESCA SEMPERFLORENS (Duch.) Seringe. Rosaceæ. Strawberry.

From Edinburgh, Scotland. Seeds presented by Prof. Isaac Bayley Balfour. Royal Botanic Garden. Received April 14, 1922.

This variety differs from the type in the greater size of all its parts, the fruit in particular, and especially in its habit of producing flowers and fruit continuously throughout the summer. In its red color and delicate flavor the fruit is quite similar to that of the type. (Adapted from Robinson, *The Vegetable Garden*, p. 673.)

54997. PYRUS sp. Malaceæ. Pear.

From Chefoo, China. Presented by A. Sugden. Received April 4, 1922.

Pear seeds from Chefoo, China, which are to be grown for use as stock plants for cultivated varieties of apples and pears.

54998. PYRUS PASHIA Buch.-Ham. Malaceæ. Pear.

From Kengtung, Burma. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received April 4, 1922.

"(No. 2253. Kengtung, Burma. February 6, 1922.) A large tree about 50 feet in height with a trunk about 2 feet in diameter, found in a bamboo grove on the plains of Kengtung two stages from the Chinese border, at an altitude of about 3,000 feet. The flowers of this variety are pure white without the pink center seen in those found on the slopes of Loi Mwe southeast of Kentung, and the tree is an object of great beauty. The natives let the fruits get black on the tree, in which state they are sweet and are made into jam. The fruits of this variety are larger than usual. The native name is *Mai Kaw Ki Kai*. The sand pears of Yunnan are grafted on this species by the natives, according to a priest of the temple of Wat Ban Sao." (Rock.)

54999. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Jesi, Department of Marches, Italy. Seeds purchased through Francesco Archibugi, New York, N. Y. Received April 14, 1922.

Introduced for comparison with American-grown seed.

55000. ARALIA CACHEMIRICA Decaisne. Araliaceæ.

From Stockholm, Sweden. Seeds presented by Dr. Robert E. Fries, director, Botanic Garden. Received April 15, 1922.

This Himalayan species of *Aralia* is introduced for comparison and breeding experiments with the udo (*Aralia cordata*). It is a lax shrub, 5 to 10 feet in height, with elongated flower panicles a foot in length.

For previous introduction, see S. P. I. No. 52788.

55001. GIRARDINIA PALMATA Gaud. Urticaceæ.

From Sibpur, near Calcutta, India. Seeds presented by Lieut. Col. A. T. Gage, director, Royal Botanic Garden. Received April 15, 1922.

A tall, stout, erect, tufted plant, 4 to 6 feet in height, growing commonly in the temperate and subtropical regions of the Himalayas, where it ascends to 5,000 feet above the sea. It is generally known as the "Nilghiri nettle" and is of considerable importance in its native country because of the fiber obtained from its stalks. This fiber is very long, white, soft, and silky and is used for making fine fabrics and for mixing with wool. While the plant is described as an annual, it has proved, under cultivation, to be a perennial; the young shoots are cut down twice a year for their fiber. The leaves of this species are used as a vegetable among the hills of the Northwest Provinces. (Adapted from Watt, *Dictionary of the Economic Products of India*, vol. 3, p. 500.)

55002. TRIFOLIUM PRATENSE L. Fabaceæ.**Red clover.**

From Riga, Russia. Purchased through John P. Hurley, American consul.
Received April 14, 1922.

"This seed originated in the former Province of Kurland, but was grown in the district of Doblen, about 40 miles southwest of Riga." (*Hurley.*)

Introduced for comparison with American-grown varieties.

55003. DIOSCOREA ALATA L. Dioscoreaceæ.**Greater yam.**

From Natal, Rio Grande do Norte, Brazil. Tubers presented by E. C. Green. Received April 12, 1922.

"These tubers weigh only a few ounces each and are presumably much below the average. The flesh darkens a little when cooked, but is mealy and of good flavor." (*R. A. Young.*)

55004 to 55024.

From Nishigahara, Tokyo, Japan. Seeds presented by H. Ando, director, Imperial Agricultural Experiment Station. Received April 15, 1922.

55004 to 55023. *ECHINOCHLOA CRUSGALLI EDULIS* Hitchc. Poaceæ.

Barnyard millet.

A collection of native varieties of barnyard millets introduced for cultural and breeding experiments.

55004. *Chonakubi.*55014. *Kinshu.*55005. *Chosen.*55015. *Kurohie.*55006. *Dango.*55016. *Manshu.*55007. *Esashi-shiro.*55017. *Mochi-hie.*55008. *Futagomochi.*55018. *Hanamaki-kuro.*55009. *Gamakashira.*55019. *Nigiri.*55010. *Hanamaki.*55020. *Numakunai.*55011. *Hida.*55021. *Otsu.*55012. *Hitokara.*55022. *Yamanome 1.*55013. *Kekanjo.*55023. *Yamanome 2.*55024. *PHLEUM PRATENSE L.* Poaceæ.**Timothy.**

"Timothy seeds produced in Hokkaido." (*Ando.*)

Locally grown timothy introduced for breeding investigations.

55025 and 55026.

From Los Banos, Philippine Islands. Seeds presented by J. E. Higgins, College of Agriculture. Received April 15, 1922.

55025. *CASSIA SIAMEA* Lam. Cæsalpiniaceæ.**Kassod tree.**

A medium-sized or sometimes a large tree with gray, nearly smooth bark and papery, glabrous leaflets. The small yellow flowers are borne in large pyramidal terminal panicles. The tree is probably native to Burma and is cultivated throughout India and many tropical countries for its hard heavy wood, which is very durable. The heartwood is dark brown to nearly black, in stripes of dark and light; it is used for mallets, walking sticks, for building, and for fuel. (Adapted from *Rock, Leguminous Plants of Hawaii*, p. 81.)

For previous introduction, see S. P. I. No. 54924.

55026. *CASSIA TIMORIENSIS* DC. Cæsalpiniaceæ.

A rather low tree with slender, downy branches, pale-green leaves up to 9 inches in length, bright-yellow flowers, and thin, glossy, flexible pods sometimes 6 inches long. The tree is distributed throughout the Malay Archipelago and the Philippines. (Adapted from *Hooker, Flora of British India*, vol. 2, p. 265.)

55027. PYRUS CALLERYANA Decaisne. Malaceæ.**Pear.**

From Nanking, China. Seeds purchased from J. L. Buck, acting dean, College of Agriculture, University of Nanking. Received April 15, 1922.

A wild pear from the mountains of western China, where it grows at altitudes of 1,000 to 1,500 meters (3,300 to 5,000 feet). This pear maintains a vigorous and healthy condition under the most trying situations and may prove to be a very valuable blight-resistant stock.

For previous introduction, see S. P. I. No. 49097.

55028. PASSIFLORA MALIFORMIS L. Passifloraceæ.

From Cartagena, Colombia. Seeds presented by H. C. Kluge. Received April 17, 1922.

"The flower of this vine is very beautiful, and the fruit is edible." (*Kluge.*)

55029. AELUROPUS REPENS (Desf.) Parl. Poaceæ.**Grass.**

From Algiers, Algeria. Seeds presented by Dr. L. Trabut, director, Service Botanique. Received April 17, 1922.

"Found at very salty places in the Sahara." (*Trabut.*)

A low, much-branched, rigid, perennial grass from the Mediterranean countries. It roots at the nodes and appears to be partial to sandy places, even close to salt water. (Adapted from *Muschler, Manual Flora of Egypt, vol. 1, p. 129.*)

55030. CITRUS sp. Rutaceæ.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received April 11, 1922.

"I have used this shaddock, which is the nonedible white variety, as a stock for 20 years and would be lost without it. For grapefruit it is inclined to gum rather more than the sour orange or rough lemon, but my 10-year-old tangerines, worked on this stock, have 2,500 fruits on some of the trees, and the fruits are fine grained and of good commercial size. The Washington Navel on this stock is also very prolific and bears a full crop every year, and I have had equal success with other round oranges like the King, Valencia, Pineapple, and Lue Gim Gong." (*Towns.*)

55031 to 55039. AVENA SATIVA L. Poaceæ.**Oats.**

From Helsingfors, Finland. Seeds presented by Leslie A. Davis, American consul, through E. G. Montgomery, United States Department of Commerce. Received April 15, 1922. Quoted notes by Mr. Davis.

55031. "*Esa* (0644). A white oat."

55032. "*Jalostettu maatiäis* (0144). This variety was obtained by crossing the Kuopio 091 variety with the Guldregn variety. Its kernel is very dark brown, resembling that of the native stock. It has simple requirements and grows here just as well as native stock. The panicle is large and beautiful. The straw is of average length, somewhat better than that of native stock, but not so strong as that of the Guldregn variety. It ripens at the same time as central Finnish native stock, but five days earlier than the Guldregn variety. During experiments of many years it has often given a better crop than the Guldregn variety and a considerably better one than native stocks, with which it has been compared."

55033. "*Kultasade* (*Guldregn*). This variety from southern Finland thrives in northern Finland only in high warm places."

55034. "*Nopsa* (0206). This is a cross between the Norbotten and Ligovo oat varieties. It has a large black chaffy kernel of which the hull forms a considerable percentage. The panicle is not thick and the stalk is strong. It is very early, ripening two weeks before the Guldregn oat. The crop is good, considering its early ripening, but

55031 to 55039—Continued.

it can not compete with later varieties, such as the Guldregn. It does not appear to thrive well in dry places, but it yields well in swampy lands. It is especially suitable for cultivation on swampy lands on account of its maturing so early and because of its strong stalks. This oat must be sown profusely, owing to the large size of its kernel."

55035. "*Osmo 1* (0537). This variety was obtained by crossing Kuopio 091 with the Guldregn variety. The kernel is full, dark brown, and of the size of the Guldregn. The panicle is straight and the straw strong. The straw is not quite so hard as that of the Guldregn, but stands up about as well. It is a little earlier than the first variety here mentioned. It ripens a week before the Guldregn, so that it can well be cultivated in central and northern Finland. It also grows well in swamps."

55036. "*Osmo 2*."

55037. "*Tuotto* (101). This variety comes from the foreign Clydesdale oat. It has a large, full kernel. The color of the kernel, however, is not satisfactory, since it is brownish gray. The panicle is not thick, but is stiff, and the stalk is somewhat short and strong. The *Tuotto* variety is a late one and ripens four or five days later than the Guldregn variety. It gives good crops and has given better ones than the Guldregn and Veikko varieties. It can be grown profitably only in southern Finland."

55038. "*Veikko* (052). This variety has descended in a direct line from the Piffelbacher variety. Its kernel is large, white, and full and has quite a thin hull. Its panicle is straight, and its stalk is strong and of average length. It ripens at the same time as the Guldregn and in experiments has sometimes given better and sometimes poorer crops than the latter, so that it may be considered of about the same value as the Guldregn. It requires perhaps a somewhat better quality of soil than the Guldregn."

55039. "*Voitto* (*Seger*). This variety from southern Finland thrives in northern Finland only in high warm places."

55040. *ERYTHRINA POEPPIGIANA* (Walp.) O. F. Cook. Fabaceæ.
(*E. micropteryx* Poepp.)

From Mayaguez, Porto Rico. Seeds presented by T. B. McClelland, horticulturist, Porto Rico Agricultural Experiment Station. Received April 17, 1922.

An ornamental red-flowered leguminous tree, 40 to 50 feet in height and covered with short, conical spines. It is a native of the lower Andes of Peru, but is cultivated as a shade tree on coffee plantations in Porto Rico, where it is known as *bucare* and also as *palo de boyo*. (Adapted from *Cook and Collins, Economic Plants of Porto Rico, Contributions from the National Herbarium*, vol. 8, p. 139.)

For previous introduction, see S. P. I. No. 43049.

55041. *SABINEA CARINALIS* Griseb. Fabaceæ.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, Botanic Gardens. Received April 19, 1922.

"This tree is known locally as *Bois Charibe* and is one of the most showy of our native plants. It is a very fine flowering tree, and I have seen nothing in the Tropics to surpass it as a mass of color. If grown on fairly good land, it will not make a good show; but if planted on a dry, rocky hillside, where it will be scorched by the sun for a period of three or four months each year, it makes a marvelous display of flowers." (Jones.)

"Mr. Jones's description of the marvelous color of the *Bois Charibe* and of the rocky hillsides where it grew attracted my attention at once, and I planted a few young seedlings on a dry coral reef in front of my house at Coconut Grove, Fla. They have grown unusually well, and during the first week of

March last year one of them flowered. I have never seen a more beautiful scarlet flower, and Mr. Jones says he has seen nothing in the Tropics to surpass it as a mass of color. The chances seem good that in the *Bois Charibe* we have a small tree which is going to add splashes of red color to the landscapes of southern Florida and one which will thrive on the dry rocky ledges." (*David Fairchild*.)

For previous introduction, see S. P. I. No. 46026.

55042. COFFEA LAURENTII Wildem. Rubiaceæ.
(*C. robusta* Hort.)

Coffee.

From Kingston, Jamaica. Seeds presented by W. S. Goodman, acting superintendent, Hope Gardens. Received April 17, 1922.

This species, which is native to the Belgian Congo, is introduced for the use of specialists in the Department of Agriculture. It is commonly known as "robusta" coffee.

For previous introduction, see S. P. I. No. 51481.

55043 and 55044.

From Tangier, Morocco. Seeds presented by Jules Goffart, Société d'Horticulture. Received April 17, 1922.

55043. LIMONIUM BRASSICAEFOLIUM × IMBRICATUM. Plumbaginaceæ.
(*Statice brassicaefolium* × *imbricatum*.)

This is a hybrid between *Limonium brassicaefolium*, which has flowers with yellowish white corollas and smooth purple calyces, and *L. imbricatum*, which has flowers with yellowish white corollas and rather hairy calyces. Both of these species are shrubby plants about a foot and a half in height, with more or less velvety lobed leaves and winged branches, and both are natives of the Canary Islands.

55044. LIMONIUM FRUTICANS (Webb) Kuntze. Plumbaginaceæ.
(*Statice fruticans* Webb.)

An ornamental shrubby plant, native to the Canary Islands, with rigid, much-branched flower stalks about 2 feet in height, rising from a loose rosette of oval, crisply wrinkled leaves. It bears large flat clusters of bicolored flowers; the snowy white corollas and bright-violet calyces are made more vivid by the small red bracts and the bright-green wings of the flower stalks. (Adapted from *Flore des Serres et des Jardins de l'Europe*, vol. 4, p. 525.)

For previous introduction, see S. P. I. No. 51148.

55045. ZEA MAYS L. Poaceæ.

Corn.

From Doi Chang, Siam. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received April 4, 1922.

"(Doi Chang, near Chiangmai, Siam. January 10, 1922.) This corn was found at an altitude of 4,500 feet on Doi Chang, the Elephant Mountain; it was grown by the Miao tribe, a jungle people who inhabit the high mountains from northern Siam northward to the Province of Kweichow, China. They are a very primitive people of Chinese origin and do not eat rice but use corn exclusively." (*Rock*.)

55046. BOUEA OPPOSITIFOLIA (Roxb.) Meissn. Anacardiaceæ.
(*B. burmanica* Griffith.)

From Bangkok, Siam. Seeds presented by Y. S. Sanitwongse. Received May 4, 1922.

"The fruit of the *maprang* is of very inferior quality everywhere except at a certain locality north of Bangkok." (*Sanitwongse*.)

An evergreen tree of moderate height, with hard, gray wood which is very durable. It is a relative of the mango and is often cultivated for its edible fruits. It is native to Burma and the Andaman Islands. (Adapted from *Gamble, Manual of Indian Timbers*, p. 108.)

55047 and 55048. ZEA MAYS L. Poaceæ.**Corn.**

From Prague, Czechoslovakia. Seeds presented by Basil Benzin. Received April 19, 1922. Quoted notes by Mr. Benzin.

Native Czechoslovakian varieties of corn, introduced for cultural and breeding experiments.

55047. "*Bankutka*. A flint variety derived from dent corn by selection, 1917-1921, Levice, Czechoslovakia."

55048. "*Florentinka*. An extra early variety of flint corn, Levice, Czechoslovakia."

55049. CASSIA sp. Cæsalpiniaceæ.

From Szemao, Yunnan, China. Seed collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received May 4, 1922.

"(No. 2827. Szemao, Yunnan. March 11, 1922.) A deciduous tree 40 to 50 feet in height, found in the foothills of Szemao at an altitude of 5,000 feet. During March the tree is one mass of large, deep-pink flowers which are 2 inches wide and borne in short racemes all along the branches. It is a most striking tree and can be seen from quite a distance. It is very different from *Cassia nodosa*, which is evergreen, and from *C. bakeriana*, which occurs in northern Siam." (Rock.)

55050. ERANTHEMUM PURPUREUM Hort. Acanthaceæ.

From Manila, Philippine Islands. Cuttings presented by P. J. Wester, agricultural adviser, Bureau of Agriculture. Received April 19, 1922.

"A plant with variegated, mostly purplish foliage, grown on the Moro graves in Lanao. The flowers are whitish and inconspicuous. It could probably be used as a bedding plant as far north as Washington or possibly New York." (Wester.)

"No place of publication has been found. It may be *Odontonema nitidum* Kuntze. To be grown for identification." (H. C. Skeels.)

55051 and 55052.

From Cuzco, Peru. Seeds presented by Prof. Fortunato L. Herrera. Received April 17, 1922.

55051. CHENOPodium QUINOA Willd. Chenopodiaceæ. Quinoa.

"One of the plants cultivated by the native inhabitants of the highlands of Peru and Bolivia is a species of *Chenopodium* (*C. quinoa*), and so far as foliage is concerned it is not very unlike our ordinary 'goosefoot' in general appearance. Its seeds, however, are white, or nearly so, and fully three times as large as those of *C. album*. In pre-Columbian times this plant was one of the main foods of the Indians, evidently ranking with the potato and corn in this respect. None of the Old World cereals being known before the discovery, it was only natural that the cultivation of this plant should have extended over a considerable area. In addition to Peru and Bolivia it was probably grown in some parts of Argentina and is known with certainty to have been cultivated in Chile; in fact, there even appears to have been an Araucanian or Mapuche name for it. Doubtless its cultivation at the present time is less extensive than formerly, due in part to the diminished Indian population and in part to an apparent ignorance or indifference on the part of the white population to its real merits as a food. At present it is probably most commonly grown on the Titicaca plateau. It is said to yield abundantly, though it does not seem to have occurred to anyone to measure the yield of a given area. In late April and May some of the fields are red with compact panicles, for this seems the only part of the plant visible from a short distance. Other fields have a greenish cast, there being two or possibly more varieties. On the island of Chiloe, southern Chile, the plant grows taller than any seen about Lake Titicaca, and the foliage is more abundant, though

55051 and 55052—Continued.

whether the latter condition is due to the difference in season or to the lower altitude and more abundant rainfall is uncertain. The grain is used by the Indians in the same manner as rice, being put in soups and made into porridge. It appeals to a North American primarily as a breakfast food and should rank with oatmeal and some of the better wheat preparations. It may be cooked and served in a manner similar to oatmeal, but it becomes even more appetizing if spread out in a tray about an inch deep after steaming and then browned in the oven." (W. F. Wight.)

For previous introduction, see S. P. I. No. 46658.

55052. *LUPINUS* sp. Fabaceæ. Lupine.

"*Tarhui*. The seeds are consumed in large quantities in this locality and are of great importance as a foodstuff, having been used since the time of the conquest." (Herrera.)

55053 to 55056.

From Chefoo, Shantung, China. Budwood presented by A. Sugden. Received April 17, 1922. Quoted notes by Mrs. Myers. Sugden.

55053. *MALUS* sp. Malaceæ. Crab apple.

"A white-fruited crab apple."

55054. *MALUS* sp. Malaceæ. Crab apple.

"A red-fruited crab apple."

55055. *PYRUS* sp. Malaceæ. Pear.

"A wild pear."

55056. *ZIZIPHUS JUJUBA* MILL. Rhamnaceæ. Jujube.
(*Z. sativa* Gaertn.)

"The dragon's-claw 'date.'"

An ornamental variety of the jujube with gnarled, twisted branches. It is said to be quite rare in China.

For previous introduction, see S. P. I. No. 22914.

55057 to 55064. *HIBISCUS*-spp. Malvaceæ. Hibiscus.

From Honolulu, Hawaii. Seeds presented by Mrs. J. Rappe Myers. Received April 17, 1922. Quoted notes by Mrs. Myers.

"Collected in Honolulu, March 14, 1922."

55057. *HIBISCUS* sp.

"A very choice mixed collection."

55058. *HIBISCUS* sp.

"Apricot colored, single."

55059. *HIBISCUS* sp.

"Single, copper shade, very choice, from Gerrit P. Wilder's garden."

55060. *HIBISCUS* sp.

"A delicate straw-colored single variety from the Oahu Country Club."

55061. *HIBISCUS* sp.

"Single, creamy pink, shading to a very dark center."

55062. *HIBISCUS* sp.

"A beautiful, large, soft-pink single variety."

55057 to 55064—Continued.**55063. HIBISCUS sp.**

"A large single white variety from Robbins B. Anderson. This plant produced more and larger flowers than any other white variety on the island."

55064. HIBISCUS sp.

"A beautiful single yellow variety from the experiment station."

55065 to 55067.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received April 27, 1922.

55065. BASELLA RUBRA L. Basellaceæ.**Malabar nightshade.**

Common white variety. An East Indian plant with creeping stems up to 6 feet in length and oval or heart-shaped, fleshy green leaves. These leaves, which may be eaten like spinach, are abundantly produced throughout the summer, growing in greater profusion as the weather becomes warmer. The plant is cultivated as an annual, the seeds being sown in early spring and the seedlings planted out late in May. (Adapted from *Robinson, The Vegetable Garden*, p. 451.)

For previous introduction, see S. P. I. No. 2006.

The following grasses are introduced for forage-crop experiments:

55066. FESTUCA HETEROPHYLLA Lam. Poaceæ.**Fescue.**

"This European grass is used in mixtures for sterile or sandy soil, especially in mixtures for lawns; the stem blades are flat." (A. S. Hitchcock.)

55067. PHALARIS BULBOSA Jusl. Poaceæ.**Grass.**

A perennial tufted grass whose roots penetrate the soil to a depth of nearly 3 feet. It is a native of the Mediterranean countries, but is now cultivated in New South Wales, where it has been found to endure dry conditions remarkably well. It will stand a considerable amount of pasturing; it also makes excellent hay if cut as soon as the flower heads begin to appear. (Adapted from *Agricultural Gazette of New South Wales*, vol. 28, p. 715.)

For previous introduction, see S. P. I. No. 53241.

55068. MANISURIS EXALTATA (L. f.) Kuntze. Poaceæ.**Grass.**

(*Rottboellia exaltata* L. f.)

From Salisbury, Rhodesia. Seeds presented by H. G. Mundy, chief agriculturist and botanist, Department of Agriculture. Received April 24, 1922.

"*Kokoma grass*. This grass, which is a native of Rhodesia, is an extremely vigorous, free-seeding, leafy annual. It hardly withstands drought as well as Sudan grass, but gives a considerably larger yield of fodder. Owing to the freedom with which the seeds are shed it is inclined to volunteer very freely, and in rich, low-lying, arable land it may become a troublesome weed. The rather harsh, stringing hairs on the lower culms are an objection, but not a very serious one." (*Mundy*.)

For previous introduction, see S. P. I. No. 46983.

55069 and 55070. SOJA MAX (L.) Piper. Fabaceæ. Soy bean.

(*Glycine hispida* Maxim.)

From Omagari, Akita-Ken, Japan. Seeds presented by Isabura Nagai, director of substation, Rikuu Branch, Agricultural Experiment Station. Received April 29, 1922.

"It has been our experience that the smooth, or 'Hadaka,' varieties of soy beans from Japan do not shatter their seed nearly so easily as the hairy sorts." (*W. J. Morse*.)

"The pods of the first variety are smooth and of the second variety slightly hairy. Both varieties were grown at our experiment station." (*Nagai*.)

55069. Hadaka No. 3.

55070. Hadaka No. 260.

55071 to 55098.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received April 17, 1922.

55071 to 55075. *BERBERIS* spp. Berberidaceæ.

Barberry.

55071. *BERBERIS AGGREGATA PRATTII* C. Schneid.

(Wilson No. 1300.)

A hardy shrub 6 to 10 feet in height, with slender, 3-parted spines, oval leaves, narrow panicles of yellow flowers, and egg-shaped salmon-red fruits about one-fourth of an inch in length. It is a native of western China and grows very freely under cultivation at Kew, England. (Adapted from *Curtis's Botanical Magazine*, pl. 8549.)

For previous introduction, see S. P. I. No. 44527.

55072. *BERBERIS DIELSIANA* Fedde.

"(Purdom No. 543.) A spreading, loosely branched, Chinese shrub often 10 feet high, with elliptic leaves that are whitish beneath. The beauty of the red fruits is accentuated by the bronze color of the leaves in the fall." (*Skeels*.)

For previous introduction, see S. P. I. No. 54066.

55073. *BERBERIS POIRETI* C. Schneid.

(Purdom No. 35.) Forma *weichangensis*. A form of the above species from Weichang, Chihli, China; it differs slightly from the type in the size of the bracts and in spine characters.

55074. *BERBERIS* sp.

(M. Vilmorin No. 4775.)

55075. *BERBERIS* sp.

(Wilson No. 135.)

55076. *BETULA MEDWEDIEWI* Regel. Betulaceæ.

Birch.

A lofty tree, native to Mount Somlia, Transcaucasia, where it is found in forest borders at an altitude of 6,800 feet. The papery, oval leaves, smooth and olive green on the upper surface, are paler below. (Adapted from *Gartenflora*, vol. 36, p. 383.)

For previous introduction, see S. P. I. No. 52933.

55077. *BUDDLEIA JAPONICA* Hemsl. Loganiaceæ.

A deciduous shrub 3 to 5 feet in height, sparsely branched and of an open habit. The very narrow dark-green leaves are up to 8 inches in length, and the pale-lilac flowers are densely crowded in terminal branched panicles. This shrub is a native of Japan and is rather striking in autumn with its long, dense, drooping panicles of fruit. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 272.)

55078. *CALLICARPA GIRALDIANA* Hesse. Verbenaceæ.

(Wilson No. 439.)

An ornamental shrub from western China, with membranous bright-green dentate leaves and many-flowered cymes of purple flowers followed by dense clusters of round violet-purple fruits. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 366.)

For previous introduction, see S. P. I. No. 44076.

55079. *CASTANEA SATIVA* Mill. Fagaceæ.

Chestnut.

Variety *heterophylla*. A form with leaves of various shapes.

55080 to 55086. *COTONEASTER* spp. Malaceæ.

55080. *COTONEASTER ADPRESSA* Bois.

A dwarf *Cotoneaster* from China which does not exceed 10 inches in height, but forms a clump several feet in diameter, with the

55071 to 55098—Continued.

stems rooting easily where they touch the ground. It has solitary flowers with pink-tipped petals and bright-red fruits. (Adapted from *Vilmorin and Bois, Fruticetum Vilmorinianum*, p. 116.)

For previous introduction, see S. P. I. No. 27407.

55081. COTONEASTER MOUPINENSIS Franch.

The common cotoneaster in the thickets and margins of woods throughout western Szechwan at altitudes of 4,000 to 7,500 feet. It is 6 to 15 feet high, with white flowers and jet-black fruits. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 163.)

For previous introduction, see S. P. I. No. 53688.

55082. COTONEASTER MULTIFLORA Bunge.

A deciduous shrub or small tree 10 to 12 feet high, with slender, arching branches, papery leaves, branched clusters of white flowers, and roundish red fruits. This elegant cotoneaster is native to the northwestern borders of China and makes a most charming appearance when the branches are wreathed with the abundant flowers in May and June. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 413.)

For previous introduction, see S. P. I. No. 40168.

55083. COTONEASTER SALICIFOLIA RUGOSA (E. Pritz.) Rehd. and Wils.

"A very handsome Chinese shrub having long pendulous branches covered with much-wrinkled lanceolate leaves which have the under-surface covered with down. The berries are small, globular, and bright scarlet. They are borne in clusters and combined with the autumn tints of the foliage produce a very pretty effect." (*Journal of the Royal Horticultural Society*, vol. 38, p. cclii.)

For previous introduction, see S. P. I. No. 53694.

55084. COTONEASTER sp.

Received as *Cotoneaster myrtiflora*, for which a place of publication has not been found.

55085. COTONEASTER sp.

(M. Vilmorin No. 4690.)

55086. COTONEASTER sp.

(M. Vilmorin No. 5015.)

55087. DEUTZIA SCHNEIDERIANA LAXIFLORA Rehder. Hydrangeaceæ.

(Wilson No. 767.)

A shrub about 6 feet in height from western China. The flowers, nearly half an inch in length, are borne in broadly pyramidal but rather loose clusters. (Adapted from *Gardeners' Chronicle of America*, vol. 24, p. 273.)

For previous introduction, see S. P. I. No. 52640.

55088. DEUTZIA sp. Hydrangeaceæ.

(M. Vilmorin No. 7264.)

55089. LIGUSTRUM DELAVAYANUM Harlot. Oleaceæ.

Privet.

(Wilson No. 1290.)

This hardy shrub was first discovered by Abbé Delavay in the mountains of Yunnan, China. In habit it is prostrate-spreading, except for a few perfectly upright branches which rise from the center of the shrub to a height of about 10 feet. The shining dark-green foliage, which is remarkably persistent, reminds one of a myrtle and, with the

55071 to 55098—Continued.

white flowers and blue-black fruits, makes this plant a very attractive ornamental. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 2, p. 601, and from *Revue Horticole*, vol. 73, p. 495.)

For previous introduction, see S. P. I. No. 49677.

55090. *PRUNUS* sp. Amygdalaceæ.

Plum.

Received as *Prunus korolkowii*, for which a place of publication has not been found.

55091. *PYRACANTHA* sp. Malaceæ.

(M. Vilmorin No. 6257.)

55092. *RIBES MEYERI TURKESTANICUM* Jancz. Grossulariaceæ.

A shrub 3 to 4 feet in height, native to Turkestan, with blunt-pointed leaves, reddish purple flowers, and deep-purple, shiny, juicy fruits of no pronounced flavor. (Adapted from *E. Janczewski, Monographie des Groseilliers*, p. 297.)

For previous introduction, see S. P. I. No. 32761.

55093. *RIBES* sp. Grossulariaceæ.

(M. Vilmorin No. 7947.)

55094 and 55095. *ROSA OMEIENSIS PTERACANTHA* (Franch.) Rehd. and Wils. Rosaceæ. Rose.

55094. A shrub 3 to 9 feet tall, with white flowers and red fruits having usually a shorter stalk than in the type. Very common on the wind-swept mountain sides of western Szechwan. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 2, p. 332.)

For previous introduction, see S. P. I. No. 53738.

55095. Variety *fructu rubra*. A bushy rose about 3 feet in height, with large oval prickles, small thickly set leaves, solitary single white flowers, and rather large red fruits. It is native to Yunnan, China. (Adapted from *Vilmorin and Bois, Fruticetum Vilmorinianum*, p. 99.)

55096. *SORBARIA ARBOREA SUBTOMENTOSA* Rehder. Rosaceæ.

A variety with the lower surfaces of the leaflets densely hairy; similar to the type, but with larger flowers. It is native to western Szechwan, China, where it forms a shrub up to 20 feet in height with rather small white flowers. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 47.)

55097. *SORBARIA* sp. Rosaceæ.

Received as *Sorbaria pallasii grandiflora*, for which a place of publication has not been found.

55098. *VITIS DAVIDII* (Cart.) Foex. Vitaceæ.

Grape.

A luxuriant climber, native to central China, with the young shoots covered with spiny, somewhat-hooked bristles. The shining dark-green leaves are heart shaped, toothed, and up to 8 inches in width, and the fruits are said to be black, about two-thirds of an inch in diameter, and of pleasant flavor. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 2, p. 667, under *Vitis armata*.)

For previous introduction, see S. P. I. No. 41877.

55099. *GOSSYPIUM* sp. Malvaceæ.

Kidney cotton.

From Yeungkong, Kwangtung, China. Seeds presented by Dr. W. H. Dobson. Received April 18, 1922.

A kidney cotton with fiber of medium length.

55100 to 55104.

From Kisantu, Belgian Congo. Seeds presented by Père J. Gillet, S. J., Jardin d'Essais de Kisantu. Received April 29, 1922.

55100. *COFFEA* sp. Rubiaceæ.

Coffee.

"Coffee-hybrid Le Roy." (*Gillet.*)

55101. *MUSA ARNOLDIANA* Wildem. Musaceæ.

Banana.

The plant grows to a height of 12 to 15 feet without suckering, and the leaves are about 7 feet in length. The inflorescence is short and drooping, and the fruits are nearly 4 inches long. The plant is native to the Belgian Congo. (Adapted from *Fawcett, The Banana*, p. 278.)

55102. *PIMENTA OFFICINALIS* Lindl. Myrtaceæ.

Allspice.

A small tree, native to tropical America, whose dried, unripe berries constitute the allspice of commerce. It prefers a hot and rather dry climate, with alluvial, well-drained soil. Jamaica is the source of our supply of allspice at the present time.

For previous introduction, see S. P. I. No. 44824.

55103. *PSIDIUM* sp. Myrtaceæ.

"A small shrub." (*Gillet.*)

55104. *VOANDZEA SUBTERRANEA* (L.) Thouars. Fabaceæ.

A creeping annual leguminous plant which matures its fruits in the same manner as the peanut, whence its common name "groundnut." It is native to tropical Africa and is extensively grown in that continent, as well as in other tropical countries, for its edible seeds.

For previous introduction, see S. P. I. No. 54704.

55105. *GARCINIA TINCTORIA* (DC.) W. F. Wight. Clusiaceæ.
(*G. xanthochymus* Hook. f.)

From Honolulu, Hawaii. Seeds presented by Gerrit P. Wilder. Received April 4, 1922.

Introduced for testing as a stock for the mangosteen (*Garcinia mangostana* L.).

For previous introduction, see S. P. I. No. 40103.

55106 to 55165. *HOLCUS SORGHUM* L. Poaceæ.
(*Sorghum vulgare* Pers.)

Sorghum.

From Khartum, Anglo-Egyptian Sudan. Seeds presented by W. A. Davie, Director of Agriculture, Sudan Government, through H. N. Vinall, agronomist, Office of Forage-Crop Investigations, United States Department of Agriculture. Received April, 1922.

"Samples of local varieties collected by the Sudan Department of Agriculture throughout Anglo-Egyptian Sudan in the region tributary to Khartum." (*Vinall.*)

55106. *Gassabi.*

55116. *Wad el Nebhi.*

55107. *Feterita.*

55117. *Um Ghorirrat.*

55108. *El Medeck el Abiad.*

55118. *Shallouft el Naga.*

55109. *Khamis Wad Gah.*

55119. *Mogd Wad Fadl.*

55110. *Asfar Homasi.*

55120. *Wad Abu Gutta.*

55111. *Kaliko.*

55121. *Baid el Wiz.*

55112. *Gusiri.*

55122. *Ankolib Gassab.*

55113. *Feterita.*

55123. *Hemaise.*

55114. *Hamisi.*

55124. *Kalm Ahmer.*

55115. *Abu Khammeir.*

55125. *Higiri.*

55106 to 55165—Continued.

55126. <i>Feterita</i> .	55146. <i>Mugood</i> .
55127. <i>Abu Shanab</i> .	55147. <i>Asfar</i> .
55128. <i>Banan Tokar</i> .	55148. <i>Wad Fahal</i> .
55129. <i>Wad Brageh</i> .	55149. <i>Wad bahana</i> .
55130. <i>Mogd Abagro Abiad</i> .	55150. <i>Wad Akhar</i> .
55131. <i>Neili Neili</i> .	55151. <i>Nugood</i> .
55132. <i>El Safra</i> .	55152. <i>No. 40</i> .
55133. <i>Ahamar</i> .	55153. <i>No. 12</i> .
55134. <i>Shikari</i> .	55154. <i>Hegeira</i> .
55135. <i>Kargi</i> .	55155. <i>Abu Koliga</i> .
55136. <i>Abgara</i> .	55156. <i>No. 8</i> .
55137. <i>Kalam</i> .	55157. <i>Abu Tarakish</i> .
55138. <i>Abu Homeer</i> .	55158. <i>Moru</i> .
55139. <i>No. 15</i> .	55159. <i>Naggad Abiad</i> .
55140. <i>Ganie</i> .	55160. <i>Laben el Shah</i> .
55141. <i>El hacherag</i> .	55161. <i>Makway Abiad</i> .
55142. <i>Gussiri Tokar</i> .	55162. <i>Khass</i> .
55143. <i>Shamsham</i> .	55163. <i>Waga</i> .
55144. <i>Balyani</i> .	55164. <i>Wad Bgota</i> .
55145. <i>Beid el Tor</i> .	55165. <i>Mogd Khamgan Asfer</i> .

55166 to 55211. *HIBISCUS* spp. Malvaceæ.*Hibiscus*.

From Honolulu, Hawaii. Cuttings secured by Mrs. J. Rappe Myers, in Honolulu, and sent in by J. M. Westgate, agronomist in charge, Agricultural Experiment Station. Received March 27 and 30, 1922. Quoted notes by Mrs. Myers, unless otherwise stated.

The Chinese hibiscus is one of the most popular and useful decorative plants of tropical gardens and is cosmopolitan in its distribution. Probably in no other region, however, has so extensive a series of choice horticultural forms been brought together as in Hawaii. In most parts of the Tropics only two or three varieties are seen, usually the single scarlet and the double scarlet. In recent years some excellent sorts have been distributed by Florida nurserymen, yet it is felt that much more can and should be done to popularize the newer delicately colored varieties, and toward this end the following collection has been secured in Honolulu by Mrs. J. Rappe Myers. They should prove of real value in southern Florida and in Porto Rico, the Canal Zone, and the American Tropics generally.

"Most of these varieties are the productions of Gerrit P. Wilder."

55166 to 55192. "Collected March 11, 1922."

55166 to 55170. "Collected in Mrs. George Sherman's garden."

55166. *HIBISCUS SYRIACUS* L.

"(No. 1.) A lavender variety; originally from Japan."

55167. *HIBISCUS* sp.

"(No. 2.) Single pink, shading white to the center."

55168. *HIBISCUS* sp.

"(No. 3.) Single orange."

55169. *HIBISCUS* sp.

"(No. 4.) Single, light pink."

55170. *HIBISCUS* sp.

"(No. 5.) 'Laurita Sherman.'"

55166 to 55211—Continued.

55171. HIBISCUS sp.

"(No. 6.) A most beautiful, single, buff variety from Mrs. W. Woon's garden."

55172. HIBISCUS sp.

"(No. 7.) Fringed single red. From Haugh's garden."

55173. HIBISCUS sp.

"(No. 8.) A red-and-pink Fuchsia variety from Mrs. Rosa's garden."

55174. HIBISCUS sp.

"(No. 9.) Buff, single, with red center; from Helen Rosa's garden."

55175. HIBISCUS sp.

"(No. 10.) Single and double, light yellow; from Country Club grounds."

55176 to 55179. "From John Walker's garden."

55176. HIBISCUS sp.

"(No. 11.) Single, buff, light-red center."

55177. HIBISCUS sp.

"(No. 12.) 'Agnes Gault' variety."

55178. HIBISCUS sp.

"(No. 13.) Double yellow."

55179. HIBISCUS sp.

"(No. 14.) 'Mrs. Hassinger.'"

55180 to 55182. "From Mr. Anderson's garden."

55180. HIBISCUS sp.

"(No. 15.) Double red."

55181. HIBISCUS sp.

"(No. 16.) Bright red; double."

55182. HIBISCUS sp.

"(No. 17.) Largest, single white."

55183 to 55192. "From L. A. Thurston's garden."

55183. HIBISCUS sp.

"(No. 18.) Single, reddish mahogany banded in cream."

55184. HIBISCUS sp.

"(No. 19.) Single, rose pink; very fine."

55185. HIBISCUS sp.

"(No. 20.) Single, corn color, deep-red center."

55186. HIBISCUS sp.

"(No. 21.) Cerise pink, single."

55187. HIBISCUS sp.

"(No. 22.) Single, lavender buff."

55188. HIBISCUS sp.

"(No. 23.) Single, orange, crimson center."

55189. HIBISCUS sp.

"(No. 24.) Double. American Beauty shade."

55166 to 55211—Continued.

55190. *HIBISCUS* sp.

“(No. 25.) Single, flame red.”

55191. *HIBISCUS* sp.

“(No. 26.) Single, orange pink.”

55192. *HIBISCUS* sp.

“(No. 27.) Double, cerise.”

55193 to 55211. “Collected March 14, 1922.”

55193 to 55207. “From Gerrit P. Wilder's garden.”

55193. *HIBISCUS* sp.

“(No. 28.) ‘Nora Swanzy Sport,’ unnamed, single, copper colored.”

55194. *HIBISCUS* sp.

“(No. 29.) Single, yellow with red center; not named.”

55195. *HIBISCUS* sp.

“(No. 30.) Double yellow. Very difficult to grow; no name.”

55196. *HIBISCUS* sp.

“(No. 31.) ‘Lita Wight’ or ‘Jamaica.’ Single yellow.”

55197. *HIBISCUS* sp.

“(No. 32.) ‘Queen Kashumanu.’ Single, salmon pink and orange.”

55198. *HIBISCUS* sp.

“(No. 33.) ‘Nora Swanzy.’ Single, copper colored.”

55199. *HIBISCUS* sp.

“(No. 34.) ‘Auata Focke.’ Single, lavender.”

55200. *HIBISCUS* sp.

“(No. 35.) ‘Lillian Nordica.’ Single, pink with white center.”

55201. *HIBISCUS* sp.

“(No. 36.) ‘Lillian Wilder.’ Single pink.”

“Strong growth, erect, freely branching, light-gray bark, brownish twigs. Leaves ovate, serrate, slightly pubescent, shiny, dark green, 2 to 3½ inches wide, 3½ to 5½ inches long, petiole 2 inches. Flower 7 inches wide, delicate crimson pink with darker veins and crimson eye; column crimson, 3½ inches; peduncle 2½ inches; bracts six to eight, slender, spreading, green. Sometimes self-seeds; crosses freely.” (*E. V. Wilcox and V. S. Holt, Hawaii Agricultural Experiment Station, Bulletin No. 29, p. 38.*)

55202. *HIBISCUS* sp.

“(No. 37.) ‘Helen Kimball.’ Single.”

55203. *HIBISCUS* sp.

“(No. 38.) ‘Wilhelmina Tenny.’ Single, orange yellow.”

55204. *HIBISCUS* sp.

“(No. 39.) Hybrid; almost double.”

55205. *HIBISCUS* sp.

“No. 40.) Hybrid; cross between white and pink.”

55166 to 55211—Continued.

55206. *HIBISCUS* sp.

“(No. 41.) Yellow single.”

55207. *HIBISCUS* sp.

“(No. 42.) Hybrid.”

55208. *HIBISCUS* sp.

“(No. 43.) Single, light pink; from Punahou school grounds.”

55209. *HIBISCUS* sp.

“(No. 44.) Single coral; from Punahou school grounds.”

55210. *HIBISCUS* sp.

“(No. 45.) ‘Eleanor Atherton.’ Single, light pink; from F. C. Atherton’s garden.”

55211. *HIBISCUS* sp.

“(No. 46.) Double cerise from Frank Atherton’s garden.”

55212 to 55245.

From Gitschin, Bohemia, Czechoslovakia. Plants presented by Josef Mazanek. Received June 10, 1920. Numbered June, 1922.

These Czechoslovakian varieties of apples and pears are introduced for the use of specialists in this country.

55212 to 55232. *MALUS SYLVESTRIS* Mill. Malaceæ.
(*Pyrus malus* L.)

Apple.

55212. (No. 1.) *Ananasová reneta* (*Reinette Ananas*).55213. (No. 2.) *Citronové zimní* (*Citron d’hiver*).55214. (No. 3.) *Červené tvrdé* (*Cousinotte rouge d’hiver*).55215. (No. 4.) *Holovouské malinové* (Raspberry apple from Holovous).55216. (No. 5.) *Mazánkovo malinové* (Raspberry apple of Mr. Mazanek).55217. (No. 6.) *Kminová reneta* (*Reinette du Canada*).55218. (No. 7.) *Kožená reneta* (*Reinette grise française*).55219. (No. 8.) *Limburské* (*La Limbourgeoise*).55220. (No. 9.) *Mišenské* (*Edelborsdorfer*).55221. (No. 10.) *Panenské* (*Rother Jungfern Apfel*).55222. (No. 11.) *Parména zlatá* (*Reine de Reinettes*).55223. (No. 12.) *Prince Albert* (*Lane’s Prince Albert*).55224. (No. 13.) *Reneta Pomfelié* (*Reinette de Pomphelia*).55225. (No. 14.) *Řehtáč soudkovitý* (*Prinzenapfel, Pomme melon*).55226. (No. 15.) *Štrymka* (*Gros-Bohn*).55227. (No. 16.) *Šalove* (*Cardinal blanc flambeau*).55228. (No. 17.) *Šampaňská reneta* (*Reinette blanche de Champagne*).55229. (No. 18.) *Šmitbergova reneta* (*Smítberger’s Reinette*).55230. (No. 19.) *Štětinské* (*Stetting Rouge*).55231. (No. 20.) *Haglee Crab*.55232. (No. 21.) *Holovouské malinové* (Raspberry apple from Holovous).

55212 to 55245—Continued.

55233 to 55245. *PYRUS COMMUNIS* L. Malaceæ.

Pear.

55233. (No. 2.) *Amanlisova máslovka* (*Beurré d'Annalis*).55234. (No. 4.) *Avranska* (*Bonne Louise d'Avranches*).55235. (No. 6.) *Anansiwa česká* (Bohemian ananas pear).55236. (No. 9.) *Dielora* (*Beurre Diel*).55237. (No. 11.) *Kozačka Stutgartská* (*Rousselet de Stuttgart*).55238. (No. 12.) *Křivice* (*Beurre Clairgeau*).55239. (No. 13.) *Pastornice* (*Poire de Curé*).55240. (No. 15.) *President Mas.*55241. (No. 16.) *Pstruška* (*Forelle*).55242. (No. 17.) *Solanka*.55243. (No. 18.) *Wienská* (*Triomphe de Vienne*).55244. (No. 19.) *Hardenpontova* (*Beurré Hardenpont*).55245. (No. 20.) *Ratajská*.55246 to 55252. *MUSA PARADISIACA SAPIENTUM* (L.) Kuntze. *Musaceæ*. **Banana.**

From Honolulu, Hawaii. Shoots presented by Willis T. Pope, horticulturist, Hawaii Agricultural Experiment Station. Received April 10, 1922.

55246. (No. 4490.) *Chamaluco*. The plant is from 10 to 15 feet in height with medium-sized leaves; when grown in fertile soil the bunches of fruit are rather large. There are two types—one with green and the other with gray fruits. The greater part of these fruits are eaten cooked at the time when other varieties are ripe. (Adapted from *Bulletin 25, Departamento de Agricultura y Trabajo, Porto Rico, p. 19.*)

For previous introduction, see S. P. I. No. 19303.

55247. "(No. 4489.) *Ice Cream*. This banana is said to have been introduced into the Hawaiian Islands from the Malay region of Asia. It was first grown at the Hawaii Station, Honolulu, in 1900, offshoots having been obtained from William Chamberlain, of Honolulu.

"Description of the plant: A 1-year old clump grown from a single offshoot usually consists of 8 or 10 plants, varying from a size suitable for transplanting up to full-grown plants maturing fruit. The average height of the full-grown plant is about 20 feet. Each mature plant usually has 10 or 12 light-green leaves at one time. The trunk is light green with parts of the outer leaf sheaths varying from light green to dark brown. The light brown often has a slight tinge of pink. The leaf blades are shiny light green above with a frosty lighter green below, due to a powdery bloom which does not rub off easily. The young leaves often have the under side of the midrib tinged with pink. Small offshoots have leaves with both margin and midrib of a delicate pink. The bases of the petioles of the larger leaves have abrasionlike marks of brown to dark brown such as are not uncommon on older plants of several other varieties.

"Fruit: The bunch of the *Ice Cream* variety is medium in size, varying in weight from 30 to 60 pounds. In color it is strikingly different from most other yellow bananas. It has a whitish or bluish green color before maturity, which is due to the powdery bloom covering the entire fruit. This powdery bloom remains quite evident after the yellowing and full ripening of the fruit. The bananas usually ripen irregularly on the bunch. After ripening, the bananas very soon

55246 to 55252—Continued.

become soft and have a tendency to fall from the bunch. The hands of bananas are usually seven or eight in number and average about 14 bananas to the hand. Each fruit is from 5 to 7 inches in length and from 2 to 2½ inches in diameter, with a weight of 7 or 8 ounces. The skin of the ripe fruit is of medium thickness, and tender, and separates, leaving a portion of its inner lining on the pulp of the fruit when peeled. The pulp is rather spongy and white or creamy white in color, suggestive of ice cream, hence its name. The flavor is slightly tart and applelike." (Pope.)

55248. "(No. 4499.) *Iholena*. The plant's of low growth, perhaps about 9 feet to the top of the leaves as an average. The petioles are rather stout, light green with pink on the edges; leaves slightly bronze colored on the under surface when young. The bunch is rather small. The fruits are arranged loosely and stand out almost at right angles from the axis of the bunch. The skin of immature fruits is light green, turning to yellow before ripening. The form of the fruit is angular; when thoroughly ripe, beginning to turn black, it is regarded as one of the best of the native bananas for eating raw. It is also good for cooking. The flesh is pink." (J. E. Higgins, *Bulletin 7, Hawaii Agricultural Experiment Station*.)

For previous introduction, see S. P. I. No. 22064.

55249. "(No. 4731.) *Kona Maïamaule* or *Miamauli*, as it is sometimes called, is, I believe, the best cooking banana in these islands, and I believe it has commercial possibilities in a locality like Kona, where much good land may be had with sufficient rainfall, little wind, and rich soil overlying a most favorable underdrainage." (Pope.)

55250. "(No. 4497.) *Largo*. Introduced into Hawaii from Mexico. The plant is of medium height, and the fruits, borne in long-stemmed bunches, have buttery pinkish flesh of fair flavor." (J. E. Higgins, *Bulletin 7, Hawaii Agricultural Experiment Station*.)

55251. "(No. 4495.) *Porto Rico*. This variety was introduced from Porto Rico by the Hawaii station in 1904.

"Description of the plant: Average height about 25 feet. Mature trunks become about 10 or 12 inches in diameter at the base. Each trunk supports 10 or 12 green leaves about 12 feet long. The color of the trunk sheaths varies from a shade of pink to dark brown. The color of the leaves is dull green above and light green below, with abrasionlike markings at the base of the petioles where they begin to extend from the sheath.

"Description of the fruit: The bunch is small to medium in size, weighing 25 to 40 pounds, and usually consists of five or six hands. The banana is smooth with angle ridges not prominent, apex or blossom end somewhat beaked, and not well filled, even on bunches which show plump fruit from good culture. The skin is bright yellow and peels well when fruit is ripe. The flesh is light yellow and rather juicy, sweet, with a pleasant flavor somewhat like that of the apple. The fruit ripens uniformly and holds well on the bunch.

"The *Porto Rico* is a very desirable banana for growing in the home garden, as most of its qualities are such as are desired in a fresh fruit for home use." (Pope.)

55252. "(No. 4492.) *Red Cuban*. This is the proper name of the largest sized variety of the various red bananas; large both as to plant and fruit. A well-grown bunch has 8 to 10 hands and individual fingers of from 2 to 2½ inches in diameter. This is the red banana of commerce." (Goldsmith H. Williams, *Crescent City, Fla.*)

55253 to 55366.

From Neston, Cheshire, England. Seeds presented by A. K. Bulley. Received April 20, 1922. Quoted notes by Mr. Bulley, unless otherwise stated.

"Collected by Dr. F. Kingdon Ward in Szechwan, China."

55253. *ANDROSACE SPINULIFERA* (Franch.) Kunth. Primulaceæ.

"(No. 4042.) An erect plant with rose-pink flowers."

A hairy alpine plant with narrowly oval leaves and a scape up to 8 inches high bearing heads of purplish flowers. It is native to the mountains of central China. (Adapted from *Engler, Das Pflanzenreich*, vol. 22, p. 184.)

55254. *ANDROSACE* sp. Primulaceæ.

"(No. 4388.) Rose pink, darker eye."

55255. *ANEMONE RUPICOLA* Cambess. Ranunculaceæ.

"(No. 4276.)"

A robust Chinese anemone about a foot in height which produces an abundance of showy flowers that are pure white with the outer sepals rosy lilac. (Adapted from *The Garden*, vol. 79, p. 272.)

For previous introduction, see S. P. I. No. 38999.

55256. *CAMPANULA* sp. Campanulaceæ.

"(No. 4605.) A dwarf plant with violet flowers."

55257. *CAMPANULA* sp. Campanulaceæ.

"(No. 4805.) A plant with pale-blue flowers."

55258. *CARAGANA* sp. Fabaceæ.

"(No. 4147.) Flowers sulphur yellow."

55259. *CARDAMINE* sp. Brassicaceæ.

"(No. 4483.) Collected at 13,000 to 14,000 feet altitude. A plant growing a foot high with fragrant purple flowers."

55260. *CLEMATIS* sp. Ranunculaceæ.

"(No. 4585.) Purple flowers with silver stamens."

55261. *CLEMATIS* sp. Ranunculaceæ.

"(No. 4877.) Clusters of straw-yellow flowers."

55262. *CODONOPSIS* sp. Campanulaceæ.

"(No. 4446.) A plant 15 inches in height with purple flowers."

55263. *CODONOPSIS* sp. Campanulaceæ.

"(No. 4618.) Collected at 13,000 to 14,000 feet elevation. A plant 8 to 12 inches high with pale lavender-blue flowers."

55264. *CREMANTHODIUM* sp. Asteraceæ.

"(No. 4210.) A plant with nodding purple flowers."

55265. *CREMANTHODIUM* sp. Asteraceæ.

"(No. 4619.) Sulphur-colored flowers."

55266. *CREMANTHODIUM* sp. Asteraceæ.

"Nodding yellow flowers."

55267. *CREPIS* sp. Cichoriaceæ.

"Collected at 13,000 feet elevation."

55268. *CYNOGLOSSUM* sp. Boraginaceæ.

"(No. 4093.) A plant with deep-blue flowers."

55253 to 55366—Continued.

55269. DELPHINIUM sp. Ranunculaceæ. Larkspur.

“(No. 4570.)”

55270. DEUTZIA sp. Hydrangeaceæ.

“(No. 4537.) A plant with white flowers.”

55271. DRABA sp. Brassicaceæ.

“(No. 4150.) Tufted golden yellow flowers.”

55272. EUONYMUS sp. Celastraceæ.

“(No. 4526.) A plant growing from 10 to 15 feet in height.”

55273. FRITILLARIA sp. Liliaceæ.

“(No. 4030.) Flowers dull yellowish green, spotted and speckled with chocolate.”

55274 to 55279. GENTIANA spp. Gentianaceæ.

55274. GENTIANA DETONSA Rottb.

“(No. 4757.)”

A gentian native to the cold regions of northeastern Asia, with a very short stem and oblong leaves arranged more or less in a basal rosette. The flowers, borne singly, are deep blue with the corolla lobes wavy at the tips. (Adapted from Turczaninow, *Flora Baicalensi-Dahurica*, No. 13, p. 322.)

55275. GENTIANA sp.

“(No. 4637.) Deep-blue flowers.”

55276. GENTIANA sp.

“(No. 4859.) Bright-blue flowers; plant more or less prostrate.”

55277. GENTIANA sp.

“(No. 4941.) Steel-blue flowers.”

55278. GENTIANA sp.

“(No. 4968.) Bright-violet flowers.”

55279. GENTIANA sp.

“(No. 4992.) Violet flowers.”

55280. HEDYCHUM sp. Zinziberaceæ.

“(No. 3792.) A plant growing 6,000 to 7,000 feet above A-lu-shih.”

55281. HEMEROCALLIS sp. Liliaceæ.

“(No. 4776.) A plant 8 to 12 inches in height with fawn-orange flowers.”

55282. INCARVILLEA sp. Bignoniaceæ.

“(No. 4197.) A tall plant with sulphur-yellow flowers.”

55283 to 55292. IRIS spp. Iridaceæ.

Iris.

55283. IRIS sp.

55284. IRIS sp.

“(No. 3791.)”

55285. IRIS sp.

“(No. 4025.) Deep-violet, almost black, flowers.”

55286. IRIS sp.

“(No. 4073.) A dwarf plant with violet flowers; collected at 13,000 to 14,000 feet elevation.”

55253 to 55366—Continued.

55287. IRIS sp.

“(No. 4101.) Lemon and black crests.”

55288. IRIS sp.

“(No. 4193.) Collected at 13,000 feet elevation.”

55289. IRIS sp.

“(No. 4243.) Violet fold markings on falls.”

55290. IRIS sp.

“(No. 4433.) Slate-blue flowers.”

55291. IRIS sp.

“(No. 4434.) Violet fold markings.”

55292. IRIS sp.

“(No. 5000a.) Collected at 9,000 to 10,000 feet elevation.”

55293 to 55295. LILIUM spp. Liliaceæ.

Lily.

55293. LILIUM sp.

“(No. 4074.) Solitary nodding canary-colored flowers.”

55294. LILIUM sp.

“(No. 4242.) Plant 3 to 4 feet high with pale-purple flowers.”

55295. LILIUM sp.

“(No. 4245.) Flowers brownish yellow with trumpets finely spotted over a white ground.”

55296. LONICERA sp. Caprifoliaceæ.

Honeysuckle.

“(No. 4134.) Large, scarlet, translucent fruits.”

55297. LONICERA sp. Caprifoliaceæ.

Honeysuckle.

“(No. 4192.) A plant 6 to 10 inches high with pale-purple flowers.”

55298. LYCHNIS sp. Silenaceæ.

“(No. 4236.) Very small white or pinkish flowers; calyx bladdery, pale green striped with chocolate.”

55299. LYCHNIS sp. Silenaceæ.

“(No. 4964.) A dwarf plant with pale purplish pink flowers.”

55300 to 55304. MECONOPSIS spp. Papaveraceæ.

55300. MECONOPSIS ACULEATA Royle.

“(No. 4171.)” A biennial Himalayan plant with hairy stems and rosettes of blunt-pointed leaves. The flowers, bright blue with golden yellow throats, are borne in spikelike racemes, the flowers opening from the top of the raceme downward. (Adapted from *The Garden*, vol. 75, p. 226.)

55301. MECONOPSIS PRIMULINA Prain.

“(No. 4008.)”

A plant found in stony places in the eastern Himalayas, at 12,000 to 14,000 feet altitude. The leaves are narrow and the flowers bright blue. (Adapted from *Annals of Botany*, vol. 20, p. 350.)

55302. MECONOPSIS PSEUDOINTEGRIFOLIA Prain.

“(No. 4169.)” A stemless hairy plant from southwest Tibet, China, with narrow leaves and 1-flowered scapes; the flowers are bright yellow and up to 3 inches in diameter. (Adapted from *Annals of Botany*, vol. 20, p. 353.)

For previous introduction, see S. P. I. No. 51750.

55253 to 55366—Continued.

55303. MECONOPSIS sp.

"(No. 4164.) A plant growing a foot high, with sky-blue flowers."

55304. MECONOPSIS sp.

"(No. 4640.) Violet flowers."

55305. OREOCHARIS sp. Gesneriaceæ.

"(No. 3995.) Yellow drooping flowers."

55306. PHLOMIS sp. Menthaceæ.

"(No. 4644.) Pale-pink flowers."

55307. PICEA sp. Pinaceæ. Spruce.

"(No. 3954.) A graceful tree 50 feet in height, growing at 9,000 to 11,000 feet altitude."

55308 to 55351. PRIMULA spp. Primulaceæ. Primrose.

55308. PRIMULA BELLA Franch.

"(No. 4082.) Violet or purple flowers."

In damp, sandy, mountain pasture land on the Mekong-Salwin Divide, western Yunnan, China, this attractive primrose was originally collected. It is little more than 2 inches in height, but bears beautiful pale-rose or deep bluish rose flowers with greenish white eyes, fairly fragrant. (Adapted from *Notes from the Royal Botanic Garden, Edinburgh*, vol. 4, p. 225.)

For previous introduction, see S. P. I. 48353.

55309. PRIMULA BLATTARIFORMIS Franch.

"(No. 4520.)"

A primrose from limestone regions in Yunnan, China; in general appearance it resembles the smooth mullein, *Verbascum blattaria*, hence its name. The leaves form a close rosette, and the lilac flowers are borne in spikelike racemes. (Adapted from *Journal of the Royal Horticultural Society*, vol. 39, p. 145.)

55310. PRIMULA BREVIFOLIA Forrest.

"(No. 4173.)"

From a rosette of bright-green, oblong leaves rises a purplish scape which ends in a cluster of a half dozen or more drooping flowers; each has a dark-purple calyx and a fringed, blue-purple corolla. The plant is native to Yunnan, China. (Adapted from *Gardeners' Chronicle*, 3d ser., vol. 57, p. 207.)

55311 and 55312. PRIMULA DRYADIFOLIA Franch.

A somewhat shrubby Chinese primrose with small leaves and large, drooping, rose-colored flowers with dark-purple bracts. (Adapted from *Journal of the Royal Horticultural Society*, vol. 39, p. 165.)

For previous introduction, see S. P. I. No. 48359.

55311. "(No. 4100.)" 55312. "(No. 4109.)"

55313 and 55314. PRIMULA MALVACEA Franch.

A primrose from the mountains of Yunnan, China, densely covered with short hairs, with bright-green leaves about 3 inches in length and thick scapes which bear two or three umbels of reddish flowers. (Adapted from *Engler, Das Pflanzenreich*, vol. 22, p. 26.)

55313. "(No. 4351.)" 55314. "(No. 4181.)"

55253 to 55366—Continued.

55315 to 55319. *PRIMULA MUSCARIOIDES* Hemsl.

A primrose with rather fleshy light-green leaves 4 or 5 inches in length. The scapes, twice as long as the leaves, bear the heads of deep purple-blue or almost violet flowers. The plant inhabits moist open places on the edges of forests in Yunnan, China. (Adapted from *Curtis's Botanical Magazine*, pl. 8168.)

55315. "(No. 4436.)" 55318. "(No. 4225.)"

55316. "(No. 4180.)" 55319. "(No. 4748.)"

55317. "(No. 4077.)"

55320 to 55332. *PRIMULA NIVALIS* Pall.

This species is found in every part of the world where primroses grow excepting South America; it varies considerably according to its geographic location. The rather thick, ribbon-shaped leaves are often coated with silver or golden meal, and the flowers, usually blue or purple but sometimes white, are borne in large clusters. (Adapted from the *Journal of the Royal Horticultural Society*, vol. 39, p. 160.)

For previous introduction, see S. P. I. No. 48369.

55320. "Deep Tyrian purple with an eye almost black."

55321 and 55322. "(No. 4055.)"

55323 and 55324. "(No. 4080.)"

55325. "(No. 4141.)"

55326 and 55327. "(No. 4176.)"

55328 to 55330. "(No. 4385.)"

55331. "(No. 4911.)"

55332. "(No. 5000 K.)"

55333 and 55334. *PRIMULA POISSONI* Franch.

"(No. 4024.)"

A stout, smooth Chinese primrose with rigid, leathery, oblong, pale-green leaves 2 or 3 inches long and a solitary flower stalk which bears one or more whorls of pink flowers. (Adapted from *Curtis's Botanical Magazine*, pl. 7216.)

55335 and 55336. *PRIMULA SECUNDIFLORA* Franch.

"(No. 4175.)"

This is one of the finest Chinese primroses; it is a native of the Likiang Mountains in northwestern Yunnan, China, where it ascends almost to snow level, 15,000 feet above the sea. On the lower plateaus, at 11,500 feet altitude, this plant forms dense colonies with scapes up to 14 inches in height. The fragrant flowers are a beautiful shade of deep crimson, faintly tinged with purple, and droop gracefully from the scapes. The calyxes are ruddy purple, marked with white lines along the margins. (Adapted from *Gardeners' Chronicle*, 3d ser., vol. 51, p. 281.)

For previous introduction, see S. P. I. No. 48375.

55337 and 55338. *PRIMULA SIKKIMENSIS* Hook.

A robust primrose from rather wet situations in the Himalayas at altitudes of 12,000 to 17,000 feet. It sends up strong flower stems a foot or two in height, which bear numerous bell-shaped pale-yellow fragrant flowers. This species is hardy in England. (Adapted from *Robinson, English Flower Garden*, p. 739.)

For previous introduction, see S. P. I. No. 48378.

55337. "(No. 4930.)"

55338. "(No. 4179.)"

55253 to 55366—Continued.

55339. PRIMULA SINOPURPUREA Balf. f.

“(No. 4181.)”

This is one of the most striking primroses of the *nivalis* group. It is native to Yunnan, China, and is a stout herbaceous plant usually about 4 inches high. The narrow leaves are thinly papery, with yellow mealy lower surfaces, and the stout scapes bear deep-violet flowers. (Adapted from *Curtis's Botanical Magazine*, pl. 8777.)

For previous introduction, see S. P. I. No. 48379.

55340. PRIMULA VINCIFLORA Franch.

“(No. 4172.)”

A rather tall Chinese primrose, sometimes over a foot in height, with beautiful flowers of a deep indigo-purple shade; the calyx tube is yellowish at the base. In its native home it grows in masses of 20 to 30 plants in one clump. (Adapted from *Gardeners' Chronicle*, 3d ser., vol. 46, p. 344.)

For previous introduction, see S. P. I. No. 48381.

55341. PRIMULA sp.

“(No. 3920.) Flowers pinkish crimson with a yellow eye.”

55342. PRIMULA sp.

“(No. 3951.) Orange-colored flowers.”

55343 and 55344. PRIMULA sp.

“(No. 5000 J.) A plant growing at 8,000 feet altitude, with purplish crimson flowers.”

55345. PRIMULA sp.

“(No. 4445.)”

55348. PRIMULA sp.

“(No. 4181.)”

55346. PRIMULA sp.

“(No. 4225.)”

55349. PRIMULA sp.

“(No. 4174.)”

55347. PRIMULA sp.

“(No. 4275.)”

55350. PRIMULA sp.

“(No. 4081.)”

55351. PRIMULA sp.

“A plant 8 to 10 inches high, growing at 9,000 to 10,000 feet altitude.”

55352. PYROLA sp. Pyrolaceæ.

“(No. 4262.) Cream-colored flowers.”

55353. RHEUM sp. Polygonaceæ.

“(No. 3794.)”

55354 to 55359. RHODODENDRON spp. Ericaceæ.

55354. RHODODENDRON sp.

55355. RHODODENDRON sp.

“(No. 4160.) A snowy white, dwarf alpine plant.”

55356. RHODODENDRON sp.

“(No. 4170.) Bell-shaped, lemon flowers.”

55357. RHODODENDRON sp.

“(No. 4177.) A plant 6 to 8 feet in height; flowers pink with dark spots.”

55253 to 55366—Continued.

55358. RHODODENDRON sp.

“(No. 4456.) A bush 2 to 3 feet in height.”

55359. RHODODENDRON sp.

“(No. 4486.) A plant 5 feet in height.”

55360 to 55364. SAXIFRAGA spp. Saxifragaceæ.

55360. SAXIFRAGA sp.

“A yellow variety found in woods.”

55361. SAXIFRAGA sp.

55362. SAXIFRAGA sp.

“(No. 4628.) Orange-colored flowers; plant 6 to 9 inches in height.”

55363. SAXIFRAGA sp.

“(No. 4654.) Flowers yellow.”

55364. SAXIFRAGA sp.

“(No. 4905.) A plant 6 to 9 inches in height with chocolate-colored flowers.”

55365. SWERTIA sp. Gentianaceæ.

“(No. 4977.) A plant 2 to 4 inches high.”

55366. VERATRUM sp. Melanthiaceæ.

“(No. 4832.) An erect plant 12 to 15 inches in height with violet flowers.”

55367. CUCURBITA PEPO L. Cucurbitaceæ.

Squash.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received May 8, 1922.

The “Naples squash” has trailing stems, usually about 10 feet long, and dull-green leaves with grayish white veins and spots. The cylindrical fruit is up to 2 feet in length, with smooth dark-green skin which becomes yellow when the fruit is ripe. The orange-colored flesh is abundant and sweet. This variety is very productive, and the fruit is of excellent quality, keeps well, but ripens rather late. (Adapted from *Robinson, The Vegetable Garden*, p. 326.)

55368. TRIFOLIUM PRATENSE L. Fabaceæ.

Red clover.

From Lodi, Italy. Seeds purchased from Consorzio Agrario Cooperativo Lodigiano, through William H. Stevenson, International Agricultural Institute, Rome, Italy. Received May 8, 1922.

Introduced for cultural experiments and comparison with American-grown varieties.

55369. CROTALARIA JUNCEA L. Fabaceæ.

Sunn hemp.

From Honolulu, Hawaii. Seeds presented by J. M. Westgate, agronomist in charge, Agricultural Experiment Station. Received May 9, 1922.

Introduced for testing as a green manure, for which purpose it is used in India. It is, however, also used in that country as a fiber plant and as a catch crop.

For previous introduction, see S. P. I. No. 43502.

55370 and 55371. RUBUS spp. Rosaceæ.

From Sitka, Alaska. Plants and roots presented by C. C. Georgeson, agronomist in charge, Agricultural Experiment Station. Received May 17, 1922.

Introduced for cultural and breeding experiments.

55370. RUBUS CHAMAEMORUS L. Cloudberry.

The cloudberry is of circumpolar distribution, and the edible yellowish fruits are much prized by natives of the Arctic regions. The plant is creeping in habit and is frequently found in peat bogs.

For previous introduction, see S. P. I. No. 24379.

55371. RUBUS SPECTABILIS Pursh. Salmon berry.

The salmon berry is a native of northwestern North America from California to Alaska; it is a vigorous plant with canes 5 to 15 feet in length and large, conical, salmon-colored fruits.

For previous introduction, see S. P. I. No. 23452.

55372. LAPAGERIA ROSEA Ruiz and Pav. Liliaceæ. Copihue.

From Angol, Chile. Seeds purchased from F. L. Crouse, Instituto Agrícola Bunster, Angol. Received May 19, 1922.

"*Copihue*. This, the national flower of Chile, has been occasionally grown in northern greenhouses, where it creates a genuine sensation when in bloom. It is a climbing plant of slow growth, with slender, wiry stems and bright-crimson tubular flowers about 3 inches in length. In southern Chile huge bunches of these blossoms are brought to the railway stations and sold to passing travelers. The plant requires an acid soil." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 54621.

55373 and 55374. JUGLANS spp. Juglandaceæ. Walnut.

From Buenos Aires, Argentina. Nuts presented by D. S. Bullock, agricultural commissioner, Bureau of Markets and Crop Estimates. Received May 13, 1922. Quoted notes by Mr. Bullock.

55373. JUGLANS sp.

"From the eastern foothills of the Andes at Limoncito, Rio Blanco, or Iruya, Province of Salta. Collected in August, 1921, by A. G. Maddren."

55374. JUGLANS sp.

"From the Sierra de Lumbrera, a well-watered small mountain range just east of the Andes, in the Department of Metan, Province of Salta. The 'Nogal' trees grow along the small creeks at an altitude of 3,000 to 4,000 feet. Collected by D. S. Birkett."

55375 to 55398.

From Copenhagen, Denmark. Presented by Government Seed Control. Received May 11, 1922. Quoted notes by Dr. A. S. Hitchcock, of the United States Department of Agriculture.

The Danish Government, in cooperation with the seed growers of Denmark, is conducting extensive tests of commercial crops of value for cultivation there. These seeds are selections of some of their more promising varieties.

55375. ALOPECURUS PRATENSIS L. Poaceæ. Meadow foxtail.

(No. 40.) "Meadow foxtail is sometimes used as a meadow grass in the eastern United States. It is recommended for mixtures on moist soil, being nutritious and producing early forage. It is an erect grass 2 to 3 feet tall."

55375 to 55398—Continued.

55376. *ANTHYLLIS VULNERARIA* L. Fabaceæ. Kidney vetch.
 (No. 32.) A perennial herb found throughout Europe, northern Africa, and Asia, which is grown for sheep fodder and is particularly recommended for lime soils. In Norway it is native as far north as 70°. (Adapted from *Von Mueller, Select Extra-Tropical Plants*, p. 48.)
55377. *ARRHENATHERUM ELATIUS* (L.) Mert. and Koch. Poaceæ.
 (*A. avenaceum* Beauv.)
 (No. 37.) "This is occasionally cultivated in humid regions in the United States as a meadow grass; it is a fairly satisfactory forage grass."
55378. *AVENA SATIVA* L. Poaceæ. Oats.
 (No. 49.)
- 55379 and 55380. *BETA VULGARIS* L. Chenopodiaceæ. Beet.
 55379. (No. 44.) 55380. (No. 45.) Sugar beet.
55381. *BRASSICA NAPUS* L. Brassicaceæ. Rape.
 (No. 47.)
55382. *DACTYLIS GLOMERATA* L. Poaceæ. Orchard grass.
 (No. 36.) "A well-known meadow and pasture grass, cultivated in the humid regions of the United States."
55383. *DAUCUS CAROTA* L. Apiaceæ. Carrot.
 (No. 46.)
55384. *FESTUCA DURIUSCULA* L. Poaceæ. Hard fescue.
 (No. 39.) "This grass, rare in America, is used in mixtures for lawns, especially for sterile or stony soil."
55385. *FESTUCA ELATIOR* L. Poaceæ. Meadow fescue.
 (No. 38.) "Meadow fescue is cultivated for hay and pasture in humid regions of the United States."
55386. *HORDEUM DISTICHON PALMELLA* Harlan. Poaceæ. Barley.
 (No. 50.)
55387. *LOLIUM MULTIFLORUM* Lam. Poaceæ. Italian rye-grass.
 (No. 35.)
55388. *LOTUS CORNICULATUS* L. Fabaceæ.
 (No. 31.) An excellent fodder, and considered a valuable element in meadows and pastures in Australia and Tasmania, where it is native. (Adapted from *Maiden, Useful Native Plants of Australia*, p. 134.)
 For previous introduction, see S. P. I. No. 48634.
55389. *MEDICAGO LUPULINA* L. Fabaceæ. Black medic.
 (No. 30.)
55390. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.
 (No. 29.)
55391. *NOTHOLCUS LANATUS* (L.) Nash. Poaceæ. Velvet grass.
 (*Holcus lanatus* L.)
 (No. 43.) "Velvet grass has value as a meadow grass on moist sandy or sterile soil where other grasses will not thrive. It is an erect grass 2 to 3 feet tall."
55392. *PHLEUM PRATENSE* L. Poaceæ. Timothy.
 (No. 33.)
55393. *POA PRATENSIS* L. Poaceæ. Kentucky bluegrass.
 (No. 42.)

55375 to 55398—Continued.

55394. *POA TRIVIALIS* L. Poaceæ. Rough-stalked meadow grass.

(No. 41.) A grass with stems decumbent at the base. Not only the stems but also the leaves and sheaths are very rough. The panicle is 2 to 5 inches long.

55395. *SECALE CEREALE* L. Poaceæ. Rye.

(No. 48.)

55396. *TRIFOLIUM HYBRIDUM* L. Fabaceæ. Alsike clover.

(No. 28.)

55397. *TRIFOLIUM PRATENSE* L. Fabaceæ. Red clover.

(No. 26.)

55398. *TRIFOLIUM REPENS* L. Fabaceæ. White clover.

(No. 27.)

55399 to 55404. *CUCUMIS MELO* L. Cucurbitaceæ. Muskmelon.

From Lucknow, United Provinces, India. Seeds presented by F. H. Johnson, superintendent, Government Horticultural Gardens. Received May 9, 1922.

Seeds of six distinct varieties of Kharbusa (melons).

55399. *Chitta*.

55400. *Khurra*.

55401 and 55402. *Safada*. This is perhaps the finest of Indian melons and is grown in sandy loam along river banks. It is the size of a very large orange, flattened at both ends, and white inside and out. (Adapted from Watt, *Commercial Products of India*, p. 438.)

55401. *Safada* (big).

55402. *Safada* (Mandyaon).

55403. *Sarda*. A fine variety cultivated in India, originally introduced from Kabul, Afghanistan, for the wealthy natives of the Punjab. The seeds of this melon are distinguished by their very large size. (Adapted from Macmillan, *Handbook of Tropical Gardening and Planting*, p. 156.)

55404. Mixed.

55405. *AMARANTHUS VIRIDIS* L. Amaranthaceæ.

From Antigua, Leeward Islands. Seeds presented by Edwin A. Thompson, junior assistant, Imperial Department of Agriculture. Received May 16, 1922.

"I obtained this variety recently in Montserrat; the seeds were from locally grown plants of a special type of West Indian spinach, which is an undoubted acquisition. The plant becomes about 5 feet in height, and during its early growth the leaves are large, about the size of a dessert plate. During the recent extreme drought in Antigua I have been able to have a side dish of this vegetable at least twice a week." (*Thompson*.)

55406 and 55407. *SOLANUM TUBEROSUM* L. Solanaceæ. Potato.

From Galicia, Austria. Tubers purchased from Heinrich Dotkowski & Son. Received May 18, 1922.

55406. "*Petronius*. This variety is fairly vigorous in growth and the plants are large, compact, and healthy with strong erect medium green stems. The leaves are medium to large and rather dark green; the flowers are white, and pollen is produced rather freely. The tubers are light skinned, the eyes medium in number and depth. It is not a very productive variety, being chiefly valuable for breeding purposes." (*William Stuart*.)

For previous introduction, see S. P. I. No. 33487.

55407. *Rubin*.

55408 and 55409. RUBUS MACROCARPUS Benth. Rosaceæ. Colombian berry.

From Bogota, Colombia. Presented by W. O. Wolcott. Received May 10, 1922.

"Seeds of very large wild blackberries." (Wolcott.)

55410. GOSSYPIMUM ANOMALUM Wawra. Malvaceæ. Cotton.

From Asmara, Eritrea, Africa. Seeds presented by the director, Eritrea Colonization Service. Received April 19, 1922.

"This cotton has a very short staple, but it is soft and shining like silk. It is used by native textile workers." (A. M. Tancredi, *Notizie e Studi sulla Colonia Eritrea*, p. 110.)

According to one authority this is the only truly wild cotton in Africa: it has been found in Angola and also in the Anglo-Egyptian Sudan. It forms a shrub 5 to 10 feet in height, with rough branches, reddish flowers, and oval capsules about an inch in length, much smaller than cultivated cotton. (Adapted from Oliver, *Flora of Tropical Africa*, vol. 1, p. 211.)

55411. AMERIMNON SISSOO (Roxb.) Kuntze. Fabaceæ. Sissu.
(*Dalbergia sissoo* Roxb.)

From Dehra Dun, United Provinces, India. Seeds presented by R. S. Hole, forest botanist. Received May 16, 1922.

A large deciduous tree native to tropical and subtropical regions of the lower Himalayas. It is highly esteemed for its very durable wood, which seasons well, does not warp or split, and is strong and elastic. The thin layer of sapwood is white, while the heartwood is brown, with darker longitudinal veins, and is very hard. (Adapted from Gamble, *Manual of Indian Timbers*, p. 124.)

55412. DIOSCOREA ALATA L. Dioscoreaceæ. Greater yam.

From India. Tuber presented by E. R. Sasscer, Federal Horticultural Board, United States Department of Agriculture. Obtained by L. M. Scott, Inspector, Boston, Mass., from baggage on the steamship *City of Valencia*. Received April 19, 1922.

"*Purple Ceylon*. In India this yam is said to be called 'King of Yams.' The specimen received weighs about 13 ounces, is roughly spherical, and has deep-purple flesh, being similar in these respects to the *Purple Ceylon* previously received from Porto Rico (S. P. I. No. 54900). The flesh retains its color when cooked, is smooth in texture, and of very good flavor." (R. A. Young.)

55413. COIX LACRYMA-JOBI L. Poaceæ. Job's-tears.

From Muang Hai, southern Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received May 9, 1922.

"(No. 2485. February 17, 1922.) Collected along brooks near Muang Hai, southern Yunnan, at an altitude of 4,000 feet; may be of interest to cereal specialists." (Rock.)

For previous introduction, see S. P. I. No. 49516.

55414 to 55416. CITRUS spp. Rutaceæ.

From Shaowu, Fukien, China. Presented by Rev. J. E. Walker, Shaowu Mission of the American Board. Received May 16, 1922.

"Seeds from varieties equal to the best in Amoy, Fukien." (Walker.)

55414. CITRUS sp.

55416. CITRUS sp.

55415. CITRUS sp.

55417. PRUNUS MAJESTICA Koehne. Amygdalaceæ. Cherry.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received May 16, 1922.

"(No. 2884. Between Puerhfu and Mohei, Yunnan, March 18, 1922.) A tree 25 to 30 feet in height with ascending branches, growing on exposed dry ridges 6,000 feet or more in altitude. The cherries, which are borne in March, are oblong to ovoid, bright red, with scanty but juicy bitter flesh. The tree grows in company with *Pyrus yunnanensis*, *P. pashia*, *Larix* sp., and several other species of *Prunus* and *Malus* which are now in flower." (Rock.)

55418. PHASEOLUS SEMIERECTUS L. Fabaceæ.

From Gatun, Canal Zone. Seeds presented by J. A. Close. Received May 18, 1922.

"The long narrow pods are of a leguminous plant which I am trying out as a cover crop. I first noticed the dark-purple flowers, about the size and shape of sweet peas, along the railroad track at Gatun, but the plant did not grow well in the gravel. When planted in heavy clay mixed with charcoal, however, it developed wonderfully, and the vines formed a dense mat which allowed no other vegetation to grow under or through it. The plants grew about 3 feet high, and in the last month of the dry season the ground was covered with the decaying leaves. New plants have appeared a hundred feet from the old planting." (Close.)

55419 to 55423. ACACIA spp. Mimosaceæ.

From Khartum, Anglo-Egyptian Sudan. Seeds presented by E. E. Massey, Government botanist, Sudan Government Department of Agriculture, through Maj. R. G. Archibald, Wellcome Tropical Research Laboratories. Received May 15, 1922.

Introduced for experimental planting in the southwestern United States in connection with gum-arabic production.

55419. ACACIA ALBIDA Delile.

A low, much-branched tree with whitish bark, axillary spikes of white flowers, and flat, oblong pods. It is a native of tropical Africa and yields a gum similar to gum arabic. The leaves are eaten by goats, and the bark is used in curing leather. (Adapted from *Oliver, Flora of Tropical Africa*, vol. 2, p. 339, 1871, and *Kew Bulletin of Miscellaneous Information, Additional Series IX*, pt. 2, p. 288.)

For previous introduction, see S. P. I. No. 44922.

55420. ACACIA CATECHU (L. f.) Willd.

A moderate-sized tree with dark-brown, much-cracked bark, very finely pinnate leaves, spikes of white or pale-yellow flowers, and narrow dark-brown pods. It is found in most parts of India and Burma, sometimes becoming over 70 feet tall with a circumference of 8 or 9 feet. It yields a pale-yellow gum, with tears often an inch in diameter, which is a strong mucilage and a better substitute for gum arabic than the gum of *Acacia arabica*. This species is also the source of cutch, the resinous extract obtained by boiling down a decoction obtained from chips of the heartwood; from this extract a dull-red dye may be obtained.

The sapwood is yellowish white, and the heartwood, which is extremely hard, is either light or dark red. The wood is very durable, takes a fine polish, and is not attacked by white ants or shipworms. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 1, p. 27.)

For previous introduction, see S. P. I. No. 50711.

55421. ACACIA NUBICA Benth.

An umbrella-shaped shrub 4 to 5 feet high, with dark greenish bark, small leaflets, and rather large heads of fragrant yellowish flowers. It is native to Abyssinia and the western coast of Arabia. (Adapted from *Linnaea*, vol. 35, p. 337.)

55419 to 55423—Continued.

55422. ACACIA SPIROCARPA Hochst.

An umbrellalike tree 20 to 40 feet in height with snow-white heads of fragrant flowers and narrow, spirally twisted pods. It is quite common in dry, open, rocky places in Abyssinia at an altitude of about 4,500 feet. (Adapted from *Chiovenda, Osservazioni Botaniche nell'Abissinia*, p. 101.)

55423. ACACIA VERUGERA Schweinf.

This Abyssinian acacia forms a handsome tree 60 feet in height, with very long spines, light-green feathery foliage, and round heads of pale-yellow flowers. (Adapted from *Linnaea*, vol. 35, p. 340.)

For previous introduction, see S. P. I. No. 44924.

55424 to 55441.

From Harbin, northern Manchuria. Presented by B. W. Skvortzow. Received May 10, 1922. Quoted notes by Mr. Skvortzow.

A collection of seeds from northern Manchuria.

55424 and 55425. AMARANTHUS spp. Amaranthaceæ.

Introduced for testing as possible sources of leaf vegetables for diabetics.

55424. AMARANTHUS CAUDATUS L.

The young leaves of this plant are used like spinach.

55425. AMARANTHUS PANICULATUS L.

The seeds of this plant are much used by Mexican Indians for making sweetmeats; the seeds are first roasted, then mixed with sirup made of honey or of sugar and water, rolled into balls, and eaten like sugared pop corn. The seeds are also ground and cooked in small cakes known as *alegria*, these cakes being eaten in large quantities by the poorer classes. (Adapted from note of Mrs. Zelia Nuttall under S. P. I. No. 46310.)

For previous introduction, see S. P. I. No. 54407.

55426. CORIANDRUM SATIVUM L. Apiaceæ. Coriander.

"A Chinese variety."

55427. FAGOPYRUM VULGARE Hill. Polygonaceæ. Buckwheat.

A medium-sized variety with brownish gray seeds.

55428. HOLCUS SORGHUM L. Poaceæ. Sorghum.
(*Sorghum vulgare* Pers.)

A reddish yellow variety with black hulls.

55429. ORYZA SATIVA L. Poaceæ. Rice.

"Water rice."

55430 to 55432. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Fabaceæ. Adzuki bean.

55430. Straw-colored variety.

55431. Small red variety.

55432. "From the Chinese market."

Large variety with mottled red and white seeds.

55433 and 55434. PHASEOLUS AUREUS Roxb. Fabaceæ. Mung bean.

55433. Seeds dull grayish green.

55434. "From the Chinese market."

Seeds bright green.

55424 to 55441—Continued.**55435 and 55436. PHLEUM spp. Poaceæ.**

Introduced in connection with timothy-breeding experiments.

55435. PHLEUM ALPINUM L.

"Seeds of wild plants from the Ussuri district, Siberia."

55436. PHLEUM PRATENSE L.**Timothy.**

"From the Nicolsk-Ussurisk Agricultural Experiment Station."

Contains some *Phleum alpinum*.**55437 to 55441.**

Introduced for forage-crop experiments.

55437. SOJA MAX (L.) Piper. Fabaceæ.
(*Glycine hispida* Maxim.)**Soy bean.**

"Black soy beans."

55438 and 55439. VIGNA SESQUIPEDALIS (L.) Fruwirth. Fabaceæ.
Yard-Long bean.**55438. Black variety.****55439. Brown variety.****55440 and 55441. VIGNA SINENSIS (Torner) Savi. Fabaceæ.****Cowpea.****55440. Seeds mottled with straw color and light chocolate.****55441. "From the market."****55442 and 55443.**

From Foochow, China. Seeds presented by C. R. Kellogg. Received May 20, 1922.

55442. ALLIUM ODORUM L. Liliaceæ.**Onion.**In Japan this onion is cultivated for its leaves, which are eaten as greens; in the spring the leaves are borne luxuriantly by the old bulbs, becoming about a foot in length. (Adapted from *Useful Plants of Japan, Agricultural Society, Tokyo, p. 17.*)**55443. MELASTOMA REPENS Desr. Melastomataceæ.**"A low perennial shrub which bears beautiful roselike flowers all summer long. The flowers last only one day, but because of their great number the shrub is always well covered. The fruits are said to be eaten, but have the lack of flavor so common in Chinese fruits." (*J. B. Norton.*)

For previous introduction, see S. P. I. No. 48718.

55444. HIBISCUS ROSA-SINENSIS L. Malvaceæ.

From Manila, Philippine Islands. Cuttings presented by H. H. Boyle, Manila, through the Bureau of Agriculture. Received May 25, 1922.

White Gumamela. A white variety of the well-known and exceedingly variable Chinese hibiscus.**55445. CASIMIROA TETRAMERIA Millsp. Rutaceæ. Matasano.**

From Tegucigalpa, Honduras. Seeds presented by G. K. Donald, American consul. Received May 27, 1922.

A Central American tree about 30 feet in height, with pale warty branches, digitate leaves about 8 inches long, and axillary panicles of greenish flowers. The edible fruit, approximately the size of an orange, has a green skin with spiny protuberances sparsely scattered over the surface; the white or yellow flesh is sweet or slightly sour and incloses two or three large black seeds. (Adapted from *Field Museum of Natural History, Chicago, Publications, Botanical Series, vol. 1, p. 401.*)

This species has fruited in the Miami Plant Introduction Garden and its large attractive fruits prove it to be one worthy of serious study by Florida horticulturists.

For previous introduction, see S. P. I. No. 21030.

For illustrations of a white sapote and its fruits, see Plates I and II.

55446. MEIBOMIA RENSONI Painter. Fabaceæ.

From San Salvador, Salvador. Seeds presented by Dr. Carlos Renson, Director del Laboratorio Químico. Received May 23, 1922.

"These seeds gave a perfect germination in from 4 to 10 days." (*Renson.*)

The *barajillo* is a rapidly growing shrub, native to the Republic of El Salvador at altitudes ranging from 2,000 to 4,000 feet. Under favorable conditions it sometimes becomes a small tree about 18 feet high. The trifoliolate leaves are softly hairy and up to 3½ inches in length, and the small purplish flowers are borne in terminal racemes late in October. The roots of the *barajillo* are very large and penetrate deeply into the soil; the tubercles formed by the nitrogen-gathering bacteria are usually found only on the upper third of the root. All kinds of cattle are exceedingly fond of this plant; furthermore, it is capable of enduring prolonged drought and of thriving in very poor soil. (Adapted from *Revista de Agricultura Tropical, El Salvador, vol. 1, p. 65.*)

For illustrations of the *barajillo*, see Plates III and IV.

55447. MICROCITRUS INODORA (Baill.) Swingle. Rutaceæ.

(*Citrus inodorus* Baill.)

Russell River lime.

From Brisbane, Queensland. Seeds presented by C. T. White, Botanic Museum and Herbarium, Botanic Gardens. Received May 25, 1922.

In general appearance the Russell River lime resembles the orange, having the same dark-green foliage. The very small white flowers are odorless, and the oval or oblong ribbed fruits are about 2½ inches long, with pulp having a sharp but agreeable flavor. This tree is native to the Bellenden Ker Mountain region of northern Queensland and is the only species of the genus which yields fruits of sufficiently good quality to be of promise for culture even without any improvement by cross-breeding or selection. (Adapted from *Swingle, Journal of the Washington Academy of Sciences, vol. 5, p. 577*, and from *Bailey, Report of the Government Expedition to Bellenden Ker Range, p. 34.*)

55448 to 55450. CERATONIA SILIQUA L. Cæsalpiniaceæ. Carob.

From Jerusalem, Palestine. Cuttings presented by I. Wilkanski, Jewish Agricultural Experiment Station. Received May 25, 1922. Quoted notes by Mr. Wilkanski.

55448. "*Habathi*. This is poorer in quality than the other two varieties, but gives a larger crop."

55449. "*Sandalawi*. This is the best variety as far as quality is concerned."

55450. "*Schehabi*. This is quite mediocre both in quality and yield."

55451 to 55453. GOSSYPIUM spp. Malvaceæ.

Cotton.

From Bela Vista, Angola, Africa. Seeds presented by H. A. Neipp, American Mission. Received May 19, 1922. Quoted notes by Mr. Neipp.

55451. *GOSSYPIUM* sp.

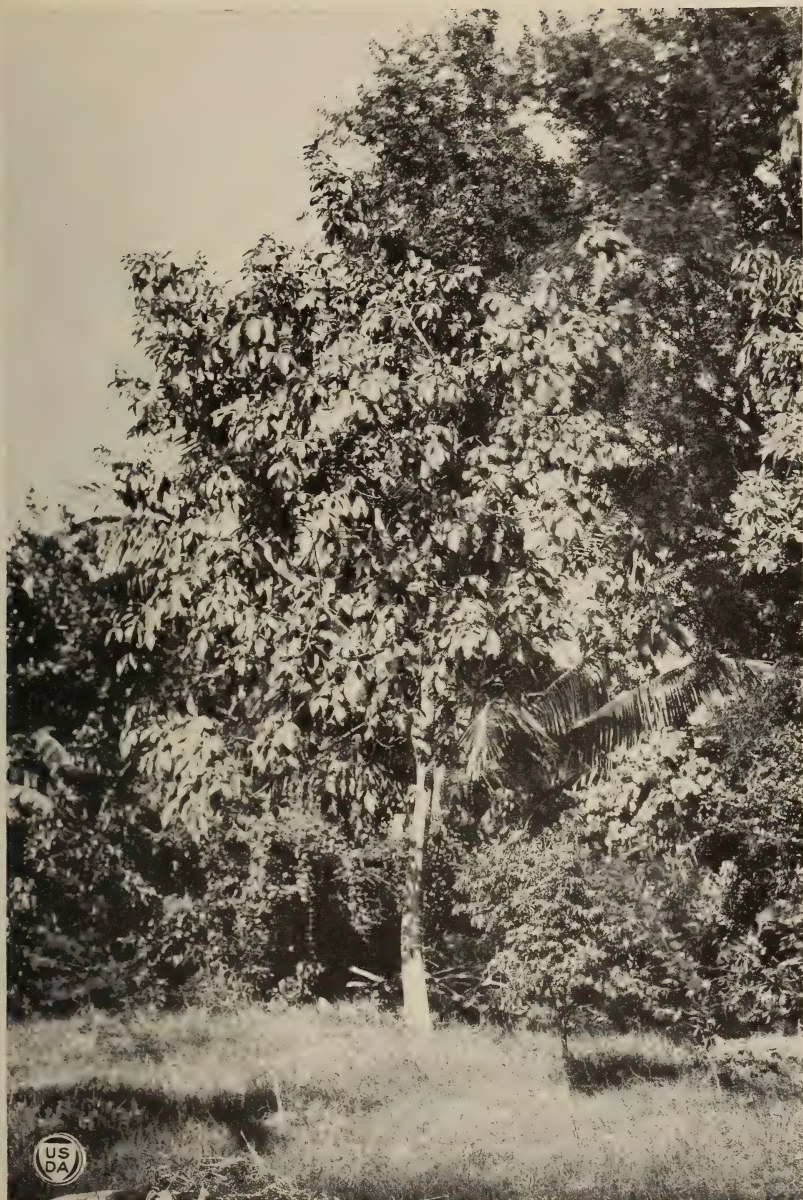
"Collected in dry season at 5,400 feet altitude."

55452. *GOSSYPIUM* sp.

"Collected during the wet season at 5,400 feet altitude."

55453. *GOSSYPIUM* sp.

"Collected in Lobito, sea level."



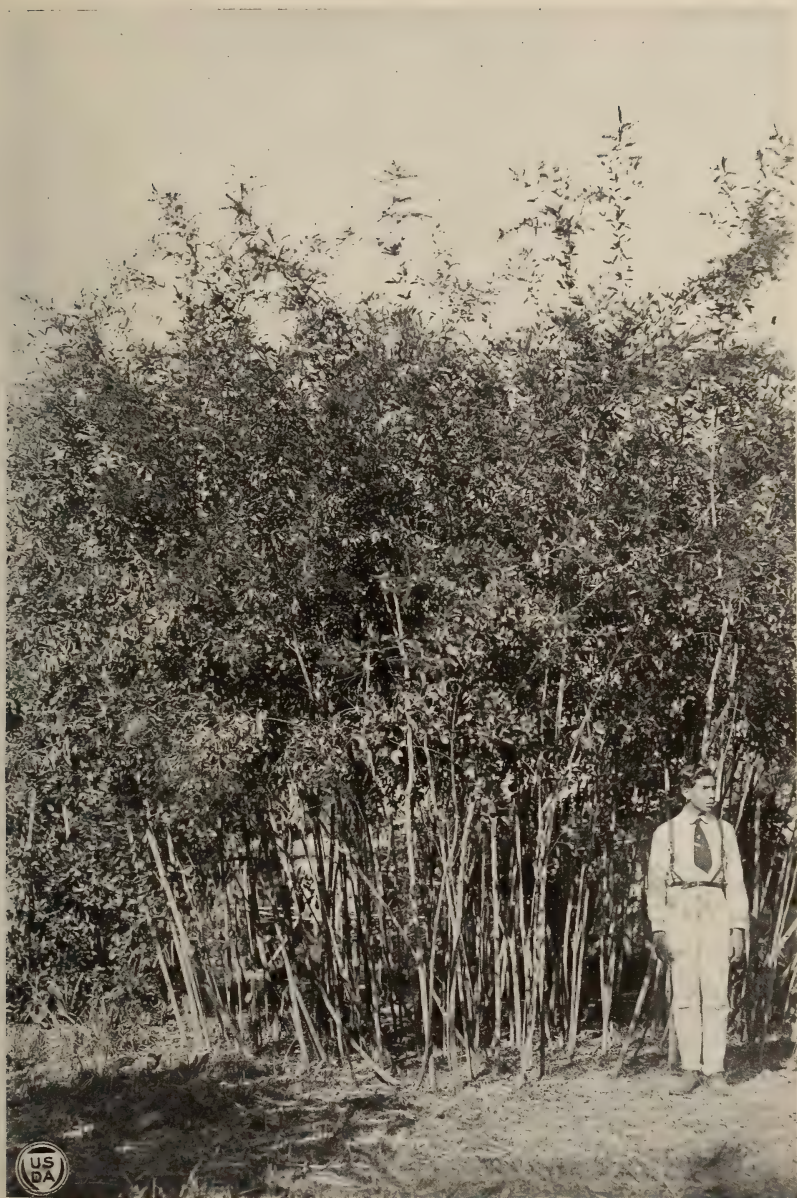
ONE OF THE WHITE SAPOTES OF CENTRAL AMERICA. (CASIMIROA
TETRAMERIA MILLSP.; S. P. I. NO. 55445.)

The common white sapote (*Casimiroa edulis*) has been cultivated in California for many years. The species here shown, *C. tetrameria*, is of more recent introduction and has not yet become well known in this country. At Miami, Fla., it grows lustily and produces in great abundance its yellow-green fruits, whose pale yellow flesh is of very sweet flavor with a bitter tang. *Casimiroa tetrameria* can be distinguished from *C. edulis* by its more pubescent leaves. The fruits of the two species are almost identical in character. (Photographed by Edward Simmonds, Plant Introduction Garden, Miami, Fla., October, 1921; P27993FS.)



A RARE SPECIES OF WHITE SAPOTE. (CASIMIROA TETRAMERIA MILLSP.; S. P. I. No. 55445.)

When fully ripe, the fruits of this rare white sapote are very soft and delicate in texture and must be handled with care to avoid bruising. They are usually eaten out of the hand and are highly interesting because of the peculiar combination of sweet and bitter flavors which they possess. The tree can be grown in many parts of California and Florida. It resists severe frosts and requires less water than many other fruit trees. (Photographed by E. L. Crandall, Photographic Laboratory, May 24, 1921; P26849FS.)



THE BARAJILLO, A NEW LEGUMINOUS SHRUB FROM SALVADOR. (MEIBOMIA RENSONI PAINTER; S. P. I. No. 55446.)

The use of leguminous plants as green cover crops and soil builders is becoming universal. The one here shown, *Meibomia rensoni*, has recently been called to the attention of horticulturists by Dr. Carlos Renson, of San Salvador. Under favorable conditions of climate and soil it reaches 18 feet in height. Its purplish flowers are borne in terminal racemes. The large roots penetrate deeply into the soil. Like other leguminous plants, *M. rensoni* gathers nitrogen from the air and stores it in nodules upon the smaller roots. (Photographed by Dr. Carlos Renson, San Salvador, Salvador.)



YOUNG BRANCHES OF THE BARAJILLO. (MEIBOMIA RENSONI PAINTER;
S. P. I. No. 55446.)

This new leguminous shrub from Salvador, in addition to serving as a green cover crop, is said to be an excellent forage for livestock. The plant thrives in poor soil and is said to resist drought admirably. It should be tried in tropical regions, where it may prove to be more valuable than the pigeon-pea, now used extensively as a cover crop and soil builder. (Photographed by Dr. Carlos Renson, San Salvador, Salvador.)

55454 and 55455. GARCINIA spp. Clusiaceæ.

From Santa Fe, Isle of Pines. Seeds presented by H. S. Jones. Received May 27, 1922.

Introduced for testing as a stock for the mangosteen (*Garcinia mangostana* L.).

55454. GARCINIA TINCTORIA (DC.) W. F. Wight.
(*G. xanthochymus* Hook. f.)

A medium-sized tree, native to southern Asia, with smooth, bright-yellow, strongly acid fruits the size of an orange.

For previous introduction, see S. P. I. No. 47358.

55455. GARCINIA sp.

Fruits yellow, about 2 inches in diameter.

55456 to 55462. SOLANUM TUBEROSUM L. Solanaceæ. Potato.

From Ibarra, Ecuador. Tubers presented by Sr. José Felix Tamayo. Received May 29, 1922.

"These varieties of *Chaucha* potatoes were grown near Ibarra, Ecuador. The *Chauchas* (Quichua, early) are a group of potatoes cultivated in the Ecuadorian highlands at altitudes between 8,000 and 12,000 feet. Commercially they are not very important, due to the fact that they do not keep as well as other varieties, but they are much cultivated for home use. The tubers are of good size; those of some varieties are of good quality, while others are rather inferior. The color, both of surface and flesh, is variable.

"The *Chauchas* mature in about five months from the time of planting, when cultivated at an elevation of 12,000 feet; other varieties require seven to eight months. As soon as the plants come into bloom the tubers are considered to be mature and are dug for eating. Unlike other varieties, which must be dug and then stored for a period before resowing, the *Chauchas* can be resown immediately after digging. The yield is fairly heavy, but not as great as that of some of the late-maturing varieties." (Wilson Popenoe.)

55456. (No. 1.) **55460. (No. 5.)**

55457. (No. 2.) **55461. (No. 6.)**

55458. (No. 3.) **55462. (No. 7.)**

55459. (No. 4.)

55463. CUCURBITA PEPO L. Cucurbitaceæ. Squash.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received May 31, 1922.

Introduced in connection with experiments to determine the specific identity of our cultivated pumpkins and squashes.

Courge de Mirepoix. (Mirepoix Musk squash.) A variety cultivated in southern France, with a strong trailing stem, large erect leaves with rounded lobes, and pear-shaped, slightly ribbed fruits which are dark green, streaked with light green. The flesh is dark red, firm, and fragrant. (Adapted from Robinson, *The Vegetable Garden*, p. 327.)

55464. CERATONIA SILIQUA L. Cæsalpiniaceæ. Carob.

From Chasaki, Athens, Greece. Presented by P. O. Anagnostopoulos, director, Horticultural Station. Received May 27, 1922.

Cuttings of a variety of carob, grown near Athens, Greece. Obtained at the request of Dr. J. Eliot Coit, of Los Angeles, who has been in correspondence with Mr. Anagnostopoulos, and who believes that the variety may be a superior one for cultivation in California, where the carob is receiving serious attention.

55465. ONCOBA ECHINATA Oliver. Flacourtiaceæ.**Gorli.**

From Sierra Leone, Africa. Purchased from L. A. King-Church, conservator of forests, Freetown, Sierra Leone. Received June 1, 1922.

"The commercial sources of chaulmoogra oil and some closely related products which yield chaulmoogric and hydnocarpic acids have always been and still are the seeds of forest trees (*Taraktogenos kurzii*, *Hydnocarpus anthelminthica*, and *H. wightiana*, and possibly others) growing in the rain-forest regions of British India and Siam. It has, however, been observed by Goulding and Akers that the seeds of a West African shrub, *Oncoba echinata*, yield an oil which contains a large proportion of chaulmoogric acid.

"Through the explorations of J. F. Rock, of this office, seeds of the forest trees (*Taraktogenos kurzii*, *Hydnocarpus anthelminthica*, *H. wightiana*, and *H. castanea*) have been secured and plants obtained from them are now being grown in various countries. Inasmuch as these are all tall trees, considerable time would doubtless be required for the production of fruit. On account of this fact a search has been made for more rapidly maturing plants which yield chaulmoogric acid, and through the kindness of L. A. King-Church, conservator of forests of Sierra Leone, a considerable quantity of seeds of the *gorli* shrub (*Oncoba echinata*) has been secured.

"Since the investigations of Goulding and Akers (see Proceedings of the Chemical Society of London, vol. 29, No. 417, p. 197) of the Imperial Institute, have established the fact that *gorli* seeds yield 45.6 per cent of fat and that the mixed fatty acids obtained from this consist to the extent of 87.5 per cent of chaulmoogric acid, the importance of making an attempt to get the plant and cultivating it was pointed out by Dr. Frederick B. Power in his chapter in Mr. Rock's bulletin entitled: 'The Chaulmoogra Tree and Some Related Species,' p. 8 (U. S. Department of Agriculture Bulletin No. 1057).

"From the literature relating to the genus *Oncoba* it appears that it is composed of shrubs or small trees; that there are several species, all of them African, and that they bear fruits of considerable size. *Oncoba echinata*, for example, has fruits resembling in size and shape an unopened chestnut bur. That these shrubs are precocious is indicated by the fact that one species, *Oncoba routledgii*, flowered in England two years from seed. This won a certificate from the horticultural society on account of the conspicuous beauty of its large white flowers, which are 2 or 3 inches in diameter.

"Whether *Oncoba echinata* is especially particular as to its soil requirements remains to be determined, but, judging from the experience which we have had with other trees and shrubs from Natal and other portions of Africa, there would seem to be a fair chance that it might thrive even on the limestone soils of southern Florida." (*David Fairchild*.)

55466 and 55467. AVENA SATIVA L. Poaceæ.**Oats.**

From Cambridge, England. Seeds presented by Prof. R. H. Biffen, Cambridge School of Agriculture. Received May 24, 1922.

These two new hybrid varieties of *white winter* oats were originated at the Plant-Breeding Institute, Cambridge, England, and are introduced for the use of oat breeders in this country.

55466. A. 69.

55467. A. 147.

55468 and 55469.

From Oxtutzcab, Yucatan, Mexico. Seeds presented by Sr. Moises Vasquez Vega. Received May 29, 1922.

55468. CARICA PAPAYA L. Papayaceæ.

Papaya.

"The fruits are very large, weighing from 17 to 22 pounds." (*Vega*.)

For previous introduction, see S. P. I. No. 52620.

55469. JACARATIA MEXICANA A. DC. Papayaceæ.

A relative of the papaya (*Carica papaya* L.), introduced for breeding experiments.

"A tree with a smooth, tapering trunk and many slender branches. The leaves are palmately seven parted and the fruits, about 6 inches

55468 and 55469—Continued.

long, are five winged, each wing terminating in an incurved spur at the base. These sweetish edible fruits are preserved with sugar. The tree is commonly called *bonete* or *papaya silvestre* and occurs in Yucatan and Chiapas, Mexico, and other parts of tropical America." (W. E. Safford.)

55470. AMYGDALUS PERSICA × COMMUNIS. Amygdalaceæ. Peach-almond hybrid.

From Mexico, D. F., Mexico. Seeds presented by Prof. Juan Balme. Received June 1, 1922.

The peachmond, a supposed peach-almond hybrid, interesting to those engaged in breeding stone fruits.

55471. CHENOPodium QUINOA Willd. Chenopodiaceæ. Quinoa.

From Cuzco, Peru. Seeds presented by Dr. Alber A. Giesecke, Cuzco University. Received June 1, 1922.

For previous introduction and description, see S. P. I. No. 55051.

55472 to 55475. CAPSICUM ANNUUM L. Solanaceæ. Red pepper.

From Valencia, Spain. Seeds presented by Henry C. A. Damm, American consul. Received June 10, 1922.

55472. Paprika No. 1.

55473. Paprika No. 2.

55474. Pimiento largo dulce de España.

55475. Pimiento Morron.

For previous introduction, see S. P. I. No. 32370.

55476. PRUNUS MAJESTICA Koehne. Amygdalaceæ. Cherry.

From Kingtungting, Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received June 2, 1922.

"(No. 2967. Manoh, Yunnan. March 30, 1922.) A large, handsome tree, 40 to 50 feet in height, with large green leaves and oblong, bright-red, bitter, fleshy fruits. It grows at altitudes of 6,000 feet on ridges with *Pyrus yunnanensis* and is very drought resistant, enduring drought for seven months or more. Also it can withstand the intense heat of April and the freezing temperatures of winter. It is a prolific bearer, but is useful only as a stock plant and as an ornamental." (Rock.)

**55477. NAGEIA NAGI (Thunb.) Kuntze. Taxaceæ.
(Podocarpus nagi Pilger.)**

From Okitsu, Shizuokaken, Japan. Seeds presented by T. Onda, director, Government Horticultural Experiment Station. Received June 2, 1922.

An evergreen subtropical tree 30 to 60 feet high, with very narrow, bluish green, sharp-pointed leaves about 3 inches long arranged in two rows on the branches. The fruit is a small, fleshy, purplish black drupe which emits a balsamlike fragrance when cut. In Japan, where this tree is native, the white, fine-grained wood is used for furniture and general building. Propagation is easily carried on by seeds, of which the tree produces an abundance. (Adapted from *Useful Plants of Japan, Agricultural Society, Tokyo, p. 145, and Revue Horticole, vol. 86, p. 77.*)

55478. SALPICHROA RHOMBOIDEA (Gill. and Hook.) Miers. Solanaceæ.

From Buenos Aires, Argentina. Seeds presented by Sr. Benito Carrasco, director, Botanic Garden. Received June 2, 1922.

Introduced for use in tomato-breeding experiments.

An ornamental relative of the tomato, with white flowers and edible, white, transparent berries which resemble the pineapple in flavor. Because of its attractive appearance and creeping habit it is very effective for covering bare places. (Adapted from *The Garden*, vol. 35, p. 367.)

55479. AVENA NUDA Hoejer. Poaceæ. Naked oats.

From Min Hsien, Kansu, China. Seeds presented by William H. Ruhl. Received June 2, 1922.

"This is the variety of huskless oats grown in the Province of Kansu." (*Ruhl.*)

55480. PHLEUM PRATENSE L. Poaceæ. Timothy.

From Sydney, New South Wales. Presented by George Valder, under-secretary and director, New South Wales Department of Agriculture. Received June 12, 1922.

Locally grown timothy seed introduced for cultural and comparison experiments.

55481. HIBISCUS CANNABINUS L. Malvaceæ.

From Pusa, Bengal, India. Seeds presented by A. Howard, Imperial economic botanist, through Robert S. Finlow, fiber expert to the Government of Bengal. Received June 3, 1922.

Introduced for trial as a fiber-producing plant.

A prickly stemmed plant 6 to 8 feet in height, cultivated throughout India for its fiber, which is used as a substitute for hemp. The fiber is soft, white, and silky and is considered by some authorities to be more durable than jute for coarse textiles. (Adapted from *C. R. Dodge, Useful Fiber Plants of the World*, p. 192.)

55482. DIOSCOREA CAYENENSIS Lam. Dioscoreaceæ.

From Guantanamo, Cuba. Tuber collected at Baltimore, Md., by C. E. Prince, inspector, Federal Horticultural Board. Received June 3, 1922.

"A yellow-fleshed yam having a somewhat bitter taste, but otherwise of very good quality. The vine is dark green and thorny." (*R. A. Young.*)

55483. LYCOPERSICON ESCULENTUM Mill. Solanaceæ. Tomato.

From Naples, Italy. Seeds presented by the Italian School of Agriculture at Portici, through Homer M. Byington, American consul. Received June 3, 1922.

"*King Humbert.* This belongs to the group of tomatoes used by the Italians for making tomato paste. The fruits are pear shaped. The vine is very vigorous and quite productive." (*D. N. Shoemaker.*)

Introduced for the use of specialists in tomato breeding.

55484. JUNIPERUS PROCERA Hochst. Pinaceæ. East African cedar.

From Jamaica Plain, Mass. Seeds presented by Prof. C. S. Sargent, Arnold Arboretum, Harvard University. Received June 3, 1922.

"This is probably the largest and handsomest juniper in the world. It is a native of the high mountains of eastern tropical Africa and should prove an extremely valuable tree in the mountains of the West Indies; it may grow in the southern United States." (*Sargent.*)

55485. ZIZIPHUS MAURITIANA Lam. Rhamnaceæ. Indian jujube.
(*Z. jujuba* Lam., not Mill.)

From Assam, India. Seeds presented by S. K. Mitra, economic botanist. Received June 5, 1922.

The Indian jujube is cultivated chiefly for its fruit, which varies in shape from more or less spherical in the wild or commoner kinds to oval or oblong in the cultivated kinds. The pulp is mealy and pleasantly sweetish; some of the cultivated varieties are very fine. The tree is found throughout India. (Adapted from *Brandis, Forest Flora of India*, p. 88.)

For previous introduction, see S. P. I. No. 41443.

For an illustration of this jujube, see Plate V.

55486. ACANTHOSICYOS HORRIDA Welw. Cucurbitaceæ.

From Pretoria, Union of South Africa. Seeds presented by Dr. I. B. Pole Evans, through Dr. H. L. Shantz, physiologist in charge of the Office of Plant Physiological and Fermentation Investigations. Received June 5, 1922.

"*Narras*. A remarkable cucurbitaceous plant which grows on the dunes of the Namib, where subterranean waters exist. Even when this water is at great depths this plant subsists. It forms thorny thickets on the sand hills of Southwest Africa and is adapted to a hot, dry climate, with little or no rainfall. The fruit is the size of an ostrich egg. Both the pulp and seeds are used as food by the natives. The fruits are produced in abundance, and for about four months of the year the more primitive Hottentots are said to survive with practically no other source of food or water. The fruits are eaten and water is secured from them. The seeds when ripe are plump and about the size of watermelon seeds.

"The plant is one which should be of great value to our Indians of the Southwest if once established on the sand dunes of Arizona and southern California. It is doubtful if any plant can be secured which seems offhand to give greater promise in that region than does this cucurbit." (*Shantz*.)

For previous introduction, see S. P. I. No. 31401.

55487. AMYGDALUS PERSICA L. Amygdalaceæ. Peach.
(*Prunus persica* Stokes.)

From Santa Ines, Chile. Plants presented by Sr. Salvador Izquierdo, Santiago, Chile. Received June 12, 1922.

"*Pomona Improved*. Sr. Izquierdo writes that this is an improved form of the variety *Pomona*, grown at his nursery at Santa Ines. Preserved fruits which he has sent us to show the character of the variety indicate that it is a fruit of unusually large size, deep yellow, clingstone, and of excellent quality for canning. It should be tried in California, where it may prove to have real value. Its season of ripening is not known." (*Wilson Popenoe*.)

55488. MEDICAGO SATIVA L. Fabaceæ.

From Loja, Ecuador. Seeds presented by Sr. Enrique Witt. Received June 15, 1922.

Locally grown seed introduced for experiments in alfalfa breeding.

55489. ILEX PARAGUARIENSIS St. Hil. Aquifoliaceæ. Yerba maté.

From Buenos Aires, Argentina. Presented by D. S. Bullock, agricultural commissioner, Bureau of Markets and Crop Estimates, United States Department of Agriculture. Received June 5, 1922.

"These seeds were harvested in April in the Territory of Misiones." (*Bullock*.)

A small, bushy, evergreen tree with serrate alternate leaves, native to Brazil and Paraguay and the neighboring countries. The leaves are roasted and ground to make the Paraguay tea of commerce, which is said to possess the good properties of tea and coffee without their injurious after effects.

For previous introduction, see S. P. I. No. 47309.

55490 and 55491. LENTILLA LENS (L.) W. F. Wight. Fabaceæ. Lentil.
(Lens esculenta Moench.)

From Malaga, Spain. Seeds presented by Sr. Luis Liro Ortiz, Ingeniero de la Sección Agronómica Málaga, through Gaston Smith, American consul. Received June 12, 1922.

55490. From Arevalo, Province of Avila.

55491. From the Province of Salamanca.

55492. DIOSCOREA ALATA L. Dioscoreaceæ. Greater yam.

From the Bahama Islands. Tuber collected at New York by Federal Horticultural Board inspectors. Received June 8, 1922.

"Tuber of an unidentified variety of the greater yam for testing in Florida and the Gulf region. The vine is four angled and prominently winged, with the margins of the wings purplish. The central part of the young leaf has purplish shading between the veins." (*R. A. Young.*)

55493. ILEX PARAGUARIENSIS St. Hil. Aquifoliaceæ. Yerba maté.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received June 7, 1922.

For previous introduction and description, see S. P. I. No. 55489.

55494. RUMEX TUBEROSUS L. Polygonaceæ. Sorrel.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received June 2, 1922.

"A very good sorrel from the Atlas region of Algeria." (*Trabut.*)

"The leaves are often used as a vegetable." (*Dragendorff, Die Heilpflanzen, p. 190.*)

55495. SEVERINIA BUXIFOLIA (Poir.) Ten. Rutaceæ.
(Atalantia buxifolia Oliver.)

From Buitenzorg, Java. Seeds presented by the director of the Botanic Garden. Received June 5, 1922.

A much-branched thorny shrub which is not uncommon in southern China and French Indo-China; it has oval, shiny green leaves, axillary clusters of small white flowers, and small berrylike fruits which become very dark red or nearly black. In Louisiana this handsome shrub has proved useful for hedges, especially the forms which have thorns 2 or 3 inches long; furthermore, it is easily propagated from cuttings. Experiments have shown that *Severinia* can withstand unusually large amounts of salt in the soil, and it may prove of interest for citrus fruits in regions having alkali in the soil or salty irrigation water. (Adapted from *Swingle, Journal of the Washington Academy of Sciences, vol. 6, p. 651.*)

55496. GARCINIA MANGOSTANA L. Clusiaceæ. Mangosteen.

From Peradeniya, Ceylon. Plants presented by Dr. F. A. Stockdale, Director of Agriculture for Ceylon, through Mrs. Arthur Curtis James. Received June 5, 1922.

"In the hope of establishing the mangosteen in our tropical dependencies, many importations of seeds and plants have been made during the last 20 years. Indeed, the office has made it a point never to miss an opportunity to secure new stock, whether in the form of a shipment of seeds by parcel post or a wardian case of young plants which some traveler returning from the East has generously volunteered to bring home. This lot of plants which Mrs. Arthur Curtis James secured from the Botanic Garden at Peradeniya, Ceylon, and which she has carefully brought with her on the deck of the yacht *Aloha*, was presented by Dr. F. A. Stockdale, Director of Agriculture for Ceylon." (*Wilson Popenoe.*)

For description of the mangosteen, see S. P. I. No. 51465.



A JUJUBE FOR MOIST TROPICAL REGIONS. (*ZIZIPHUS MAURITIANA* LAM.;
S. P. I. No. 55485.)

The Chinese jujube (*Ziziphus jujuba*) is being cultivated with great success in California and the Southwestern States. It is not successful, however, in southern Florida or in humid tropical regions generally. *Ziziphus mauritiana*, on the other hand, grows and fruits well at the Plant Introduction Garden, Miami, Fla., and will probably be suitable for cultivation in Porto Rico, Hawaii, and the Philippines. It is a small tree of attractive appearance, and its greenish yellow fruits, here illustrated in natural size, when stewed are scarcely distinguishable from the best northern plums. (Photographed by E. L. Crandall, Photographic Laboratory, February 7, 1922; P27245FS.)



BARBADOS RED, A GOOD VARIETY OF TROPICAL YAM. (*Dioscorea alata* L.; S. P. I. No. 55561.)

This is a horticultural form of *Dioscorea alata*, technically known as the greater yam. It is widely grown in the West Indies and is closely related to the Dago haya, or Guam yam. It is, however, better than the latter in some respects. The tuber has a purple inner skin, and the firm flesh, mealy when cooked, is purplish and of good flavor. The yam replaces the potato in certain tropical regions and in its best varieties is fully equal to the latter; indeed, good yams properly cooked can hardly be distinguished from potatoes. (Photographed, natural size, by E. L. Crandall, Photographic Laboratory, June 23, 1922; F27585FS.)

55497 to 55499.

From Talifu, Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received June 18, 1922. Quoted notes by Mr. Rock:

55497. *PYRUS* sp. Malaceæ.

Pear.

"(Talifu, Yunnan. April 18, 1922.) An edible pear about the size of a large apple; the flesh is light yellow, and the skin is thin, firm, and light citron colored with a red hue, hence the name *Wu pa li*, 'touched-by-the-fire' pear. The tree grows on the side of the lake opposite to Talifu."

55498. *PRUNUS MAJESTICA* Koehne. Amygdalaceæ.

Cherry.

"(No. 3066. Near Chukai, Yunnan. April 5, 1922.) A lovely tree with large serrate leaves; the branches were bent with their load of large, oblong, deep-red, cherrylike fruits. It is early fruiting, the fruits appearing in late February or early in March, and the tree seems to be absolutely free from insect or fungous pests. It occurs throughout the Black River Valley at altitudes of about 5,000 feet on mountain slopes, also near Szemao, where it is rare, and more commonly near Nanchien. The Chinese name is *Yin to* or *Yin tao*."

55499. *RUBUS ELLIPTICUS* J. E. Smith. Rosaceæ.

Raspberry.

(*R. flavus* Buch.-Ham.)

"(Nanchien, Yunnan. April 8, 1922.) A very stout shrub which, especially when young, is densely covered with long, red, almost hairlike spines. The flowers are white, and the deep-yellow, almost orange, very juicy acid fruits are collected by the hill tribes and brought to the markets; the fruits ripen earlier on the mountains than in the valley. The shrub is found at altitudes of 6,000 to 7,000 feet all the way up to Talifu; it grows on the high hills near Szemao, and I also came across it in Kengtung."

55500 and 55501.

From Nanchien, Yunnan, China. Cuttings collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received June 13, 1922. Quoted notes by Mr. Rock.

55500. *PRUNUS MAJESTICA* Koehne. Amygdalaceæ.

Cherry.

"(Szemao, Yunnan, March 18, 1922.) These seeds were sent to me at Talifu from the mountains near Szemao; they are said to be from the first wild edible cherries which came to the market."

55501. *SACCHARUM OFFICINARUM* L. Poaceæ.

Sugar cane.

"(Nanchien, Yunnan. April 27, 1922.) The cane is erect, tall, of a uniform reddish yellow color, and very juicy and sweet. It is cultivated throughout the central portion of Yunnan, south of Mengwa, and also near Puerhfu, in southern Yunnan; it is grown at an altitude of 5,000 to 6,000 feet and even higher. The region is very dry, and arid mountains form the slopes of the valleys."

55502. *TRIFOLIUM PRATENSE* L. Fabaceæ.

Red clover.

From Valence sur Rhone, France. Seeds purchased from Tezier Frères. Received June 17, 1922.

Medium red clover seed introduced for comparison and cultural experiments.

"This seed is from the 1921 harvest and was grown about 8 kilometers (about 5 miles) east of Valence." (*Tezier Frères*.)

55503. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ.

Tomato.

From Buenos Aires, Argentina. Seeds presented by D. S. Bullock, agricultural commissioner, Bureau of Markets and Crop Estimates, United States Department of Agriculture. Received June 15, 1922.

Perfección. Introduced for the use of specialists of this bureau who are engaged in tomato-breeding experiments.

55504. TELFAIRIA PEDATA (J. E. Smith) Hook. Cucurbitaceæ.
Koume vine.

From Nairobi, Kenia, Africa. Seeds presented by A. Holm, director, Department of Agriculture. Received June 6, 1922.

"A perennial climber, indigenous to eastern Africa, which grows very luxuriantly in this colony. The kernels of the seeds are used by the natives both as a foodstuff and as a source of edible oil.

"The following analysis of the seeds has been published by Gilbert (see Sadebeck, *Die Kulturgewächse der Deutschen Kolonien und Ihre Erzeugnisse*, Jena, 1899, p. 245) :

	Per cent.
Moisture-----	6.54
Ash-----	2.04
Oil-----	36.02
Protein-----	19.63
Woody fiber-----	7.30
Nitrogen-free extractive matter-----	28.45

"These seeds are flat, irregularly circular in shape, and about $1\frac{1}{4}$ to $1\frac{1}{2}$ inches in diameter. The single seeds average 4.9 grams in weight.

"The Imperial Institute of London has reported as follows:

"The seeds consist approximately of fibrous husk 11 per cent, shell 38 per cent, and kernel 51 per cent."

"The kernel yields 56.9 per cent of slightly reddish brown oil.

"The oil from seeds from Zanzibar gave the following analysis:

Specific gravity at 15° C-----	0.919
Acid value-----	2.6
Saponification-----	196
Iodin value-----	89

"This is a nondrying oil and has a pleasant, slightly sweet taste. It would be suitable for soap manufacture and also as an edible oil. The seed is used by Europeans in this colony both as a nut and as a flavoring for cakes.

"The reason that these seeds are not more used is due to the hardness of the shell and the difficulty of removing it, as well as to the intensely bitter, green skin which separates the kernel from the shell. If a method could be found of removing the tough fibrous husks and this bitter skin, it would appear that the seed would be of considerable commercial value, both for its edible oil and for the manufacture of soap, as well as for the resultant oil cake, which would probably make a good cattle feed. It would be impossible, however, to use the cake after pressing the unhusked seeds, on account of the skin mentioned above.

"A German syndicate of soap and candle manufacturers at Mannheim has investigated the possibilities of these seeds, but expressed the opinion that it would be inadvisable to place consignments of the seeds on the European market until a machine had been invented for rapidly and cheaply shelling them.

"These seeds grow very rapidly in any place which is not touched by frost. The pod containing the seeds is about a foot in diameter when ripe. The vine climbs over neighboring trees and requires no care." (*S. W. Eels, American consul, Nairobi, Kenia.*)

For previous introduction, see S. P. I. No. 52450.

55505 to 55508. RUBUS spp. Rosaceæ.
Raspberry.

From Slough, England. Plants purchased from Charles Turner, The Royal Nurseries. Received June 2, 1922.

55505. RUBUS sp.

Carter's Prolific. A moderately vigorous variety with spiny canes about 3 feet high and very small leaves; it is a good cropper, and the berries are medium sized, deep red, and nearly round, firm, and of good flavor. (Adapted from *Journal of the Royal Horticultural Society*, vol. 47, p. 47.)

55506. RUBUS sp.

"Northumberland Fillbasket. Large, deep-red fruits of good flavor." (*Dicksons's 1921-22 Catalogue.*)

55505 to 55508—Continued.**55507. RUBUS sp.**

"*Perfection*. Very stout bright-crimson canes and large bright-red fruits of excellent flavor. A vigorous grower, thriving on light soils." (*George Bunyard's Catalogue*.)

55508. RUBUS sp.

"*The Guinea*. A new yellow variety of great excellence." (*Charles Turner's Catalogue*.)

For previous introduction, see S. P. I. No. 41976.

55509. PERSEA AMERICANA Mill. Lauraceæ.**Avocado.**

(*P. gratissima* Gaertn. f.)

Seedling now growing at the Plant Introduction Garden, Miami, Fla.

"*Collinson*. This is a seedling of the Collins Guatemalan avocado (S. P. I. No. 19080); it was planted at the new garden in 1915, endured well the frost of February, 1917, when the temperature went to 26° F., before a good crop of fruit in 1920 and 1921, and at this date (March 7, 1922) still has fruit on the tree. The tree is upright in habit, with large leaves which do not burn in the summer. This year the fruits are of better quality than before, the average weight being about 1½ pounds; color, green; seed, tight in the cavity; flavor, good." (*Edward Simmonds*.)

55510 to 55515. SOLANUM TUBEROSUM L. Solanaceæ. Potato.

From Sydney, New South Wales. Tubers presented by George Valder, undersecretary and director, New South Wales Department of Agriculture, through W. D. Kerle, Inspector of Agriculture. Received June 17, 1922.

These are old varieties of American origin which are being cultivated in New South Wales. They have been reintroduced from New South Wales for special studies by potato experts. William Stuart, of the Bureau of Plant Industry, has furnished the descriptive notes from old American catalogues.

55510. *Adirondack*. This variety is a hybrid with *White Peachblow*. It is distinguished from the latter in its upright habit and larger bright-green leaves. The red-skinned, almost perfectly spherical tubers are much clustered; the flesh is pure white. (Adapted from *Potato Catalogue of B. K. Bliss & Sons, 1881, p. 5*.)

55511. *Brownell's Beauty*. The foliage is deep green and very healthy; the tubers grow compactly in the hill and are easily dug, ripening in about three months from the time of planting. The tubers are medium to large, oval or somewhat flattened with the eyes few and nearly even with the surface; the skin is reddish or deep-flesh color; the flesh is white, fine-grained, and very delicate. For the table, when baked or boiled, they are equal to the best. (Adapted from *Potato Catalogue of R. K. Bliss & Sons, 1874, p. 4*.)

55512. "*Carmen No. 1*." (Synonym *Rural New York No. 1*.) This is a seedling from seedlings raised through several generations. It belongs to the Green Mountain group. The vines are large, strong, healthy, and well branched. The flowers are white and abundant, but rarely producing seeds. The abundant tubers are large, broadly roundish, with rather shallow eyes, creamy white skin, and white flesh of very fine quality." (*Stuart*.)

55513. *Manhattan*.

55514. *Manhattan Black*. This is a main-crop variety and may be called "Improved Compton's Surprise." The vines are vigorous, with dark-green foliage; the tubers are nearly round, with dark-purple skin and very solid white flesh of fine grain; in size medium to large. (Adapted from *Potato Catalogue of B. K. Bliss & Sons, 1880, p. 18*.)

55510 to 55515—Continued.

55515. *Queen of the Valley*. The vines are large and unusually vigorous, resisting disease well; the leaves are large, thick, and dark green. The very large tubers are long-flattened, but because of their large size are less suitable for table use than for feeding livestock. (Adapted from *Potato Catalogue of B. K. Bliss & Sons, 1881, p. 9.*)

55516. *FRAGARIA* sp. Rosaceæ.

Strawberry.

From Irapuato, Guanajuato, Mexico. Plants sent by Juan Lopez Comaremy, Irapuato, at the request of Arthur Stockdale, Mexico City. Received June 20, 1922.

For previous introduction and description, see S. P. I. No. 54976.

55517 to 55519. *MEDICAGO SATIVA* L. Fabaceæ.

Alfalfa.

From Lima, Peru. Seeds presented by Dr. W. E. Dunn, acting commercial attaché. Received May 10, 1922.

Peruvian alfalfa has proved of great value in certain parts of the United States. In the hope of securing new strains which may be superior in certain respects to any now grown in the United States, an effort is being made to obtain seed from as many different regions in Peru as possible. The following note is taken from H. L. Westover, *The Development of the Peruvian Alfalfa Industry in the United States*, Department Circular 93:

"As compared with common alfalfa, both the Peruvian and 'smooth Peruvian' alfalfas are more upright, less branched, and have fewer and somewhat coarser stems and smaller crowns. In thick stands, these differences are hardly noticeable. Most of the Peruvian introductions are also characterized by rapid growth, quick recovery after cutting, and in sections having a mild climate ability to make growth in cool weather after ordinary alfalfas have ceased growing. Under such conditions the former starts growth earlier in the spring and continues later in the fall, thereby giving more cuttings each season. The principal objection advanced in times past to these alfalfas is their tendency to become somewhat woody when allowed to stand beyond the flowering stage, but this difficulty is easily obviated by harvesting earlier.

"Lack of hardness will always confine the successful production of the true and smooth Peruvian alfalfas to the southern and southwestern portions of the United States, where the climatic conditions are comparatively mild. They can not be grown to advantage where the winter temperature falls below 10° F.

"At the present time most of the Peruvian and smooth Peruvian alfalfa in the United States is found in Arizona and California. It has also been grown to a limited extent in New Mexico, Texas, and the coastal regions of the South-eastern States. The results secured seem to indicate that in much of this region the common alfalfa could be replaced very profitably by Peruvian alfalfa."

55517. *Monsefu Norte*.55519. *Sierra Alta*.55518. *Quebrada de Tangas*.

55520 to 55547.

From Ariana, near Tunis, Africa. Seeds presented by F. Boeuf, chief, Botanical Service of Tunis. Received May 31, 1922.

55520 to 55524. *AVENA STERILIS* L. Poaceæ.

Oats.

55520. *Crème*.55523. *Noire*.55521. *Grise*.55524. *Rousse*.55522. *Hybride*.55525 to 55527. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceæ. Barley.55525. *Fourragère*.55527. *Commune J*.55526. *Commune A*.

55520 to 55547—Continued.

55528. *LOLIUM MULTIFLORUM* Lam. Poaceæ. Italian rye-grass.

"Italian rye-grass is used to a limited extent for meadow, pasture, and lawn and in the South is of some importance for winter forage" (A. S. Hitchcock.)

55529 to 55546. *TRITICUM DURUM* Desf. Poaceæ. Durum wheat.55529. *Adjini*. 55538. *Mahmoudi AC 3*.55530. *Agili*. 55539. *Mahoudi AP 5*.55531. *Agiliblanc (No. 1)*. 55540. *Medea*.55532. *Agiliblanc (No. 2)*. 55541. *Mekki 1*.55533. *Aouedj*. 55542. *Mekki 2*.55534. *Derbessi*. 55543. *Souri AC 60*.55535. *Biskri*. 55544. *Souri AP 5*.55536. *Hamira*. 55545. *Sbei 1*.55537. *Jenah Rhetifah*. 55546. *Sbei 2*.55547. *VICIA MICHAUXII* Spreng. Fabaceæ. Vetch.

Introduced for trial as green manure and as a forage plant.

A creeping or climbing annual vetch, native to Syria, with very narrow leaflets, light-yellow flowers, and hairy pods about an inch long. (Adapted from *Post, Flora of Syria, Palestine, and Sinai*, p. 288.)

55548. *ORNITHOPUS SATIVUS* Brot. Fabaceæ. Serradella.

From Hamburg, Germany. Seeds purchased from Ernst & Von Spreckelsen. Received June 20, 1922.

Introduced for testing as a winter forage crop in the South.

For previous introduction, see S. P. I. No. 39345.

55549. *AMYGDALUS PERSICA* L. Amygdalaceæ. Peach.

(Prunus persica Stokes.)

From Eastwood, New South Wales. Plants purchased from C. E. Vessey, Mount Tomah Nurseries, through H. R. Wright, Avondale, Auckland, New Zealand. Received June 20, 1922.

"*Goodman's Choice*. We have sent out a number of letters to friends who are in a position to know the behavior of this peach and its comparison with *Phillips Cling*. So far we have only two replies, one from Mr. Goodman, who states that this is easily the best-quality canning peach the canners have ever seen, and that growers in this State (Victoria) are putting in more acres of it than all other yellow clings put together.

"His catalogue description, quoted below, shows that it ripens about six weeks later than *Tuscan Cling*:

"Undoubtedly the greatest yellow-fleshed clingstone peach introduced for many years. The tree is a heavy bearer each season of medium-sized fruit that is admirable for canning. The skin has a red blush on the sunny side; the flesh is beautifully rich and translucent; the variety is remarkable for even crops and gradual ripening, which means so much when the picking campaign is in progress. The fruit ripens toward the end of February and, as the name indicates, represents my choice for canning."

"We know the behavior of the clings generally in this State, and we find that they have a great tendency to be uneven in shape. Our own nurseryman states that *Goodman's Choice* is one of the best late peaches that he has come across, but as we have no growers for canneries around there we can not give an authoritative report from that point of view ourselves." (Herbert J. Rumsey, Dundas, New South Wales.)

55550. PYRUS sp. Malaceæ. Pear.

From Talifu, Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received June 27, 1922.

"(Talifu, May 4, 1922.) Seeds of a domesticated pear, from Haitung, on Lake Erh Hai, about 10 miles from Talifu." (Rock.)

55551. HORDEUM VULGARE PALLIDUM Seringe. Poaceæ. Barley.

From Valparaiso, Chile. Seeds purchased from S. Reid Thompson, American vice consul in charge. Received June 20, 1922.

"In Chile *Forjara* barley is cut twice for hay, and after that a third crop gives a good yield of grain. If this barley would give similar results in Oregon it would be of very great value." (F. C. Reimer, Oregon Agricultural College Experiment Station.)

55552 and 55553.

From Buitenzorg, Java. Seeds presented by the director, Botanic Garden, Buitenzorg. Received June 23, 1922.

55552. GARCINIA MANGOSTANA L. Clusiaceæ. Mangosteen.

55553. RHEEDIA EDULIS (Seem.) Planch. and Triana. Clusiaceæ.

"This is occasionally cultivated in Brazil under the name of *limão do matto* (wild lemon); it is a small, handsome tree with oblong glossy green leaves and elliptic yellow fruits 2 inches long. The white pulp is highly acid." (Wilson Popenoe.)

55554 and 55555.

From Barberton, Transvaal. Seeds presented by George Thorncroft. Received June 26, 1922.

55554. ANNONA SENEGALENSIS Pers. Annonaceæ.

A shrub or small tree, sometimes 20 feet in height, native to both eastern and western tropical Africa. The oval, blue-green leathery leaves are up to 5 inches in length, and the orange-yellow fruits, over an inch in diameter, contain an aromatic dark-red pulp which suggests that of the cherimoya of tropical America. (Adapted from Schweinfurth, *The Heart of Africa*, p. 222, and from Oliver, *Flora of Tropical Africa*, vol. 1, p. 16.)

For previous introduction, see S. P. I. No. 49843.

55555. BOLUSANTHUS SPECIOSUS (Bolus) Harms. Fabaceæ.
(*Lonchocarpus speciosus* Bolus.)

A small, ornamental, leguminous tree from southeastern and southern Africa, with compound deciduous leaves and long racemes of violet flowers which have given the name "Rhodesian wistaria" to the tree in some districts. The hard, white, durable timber is used only for wheel spokes. The tree is subtropical in its requirements, grows best in good deep soil, and is propagated only by seeds. (Adapted from *The Garden*, vol. 78, p. 64.)

For previous introduction, see S. P. I. No. 21808.

55556. TRITICUM DURUM Desf. Poaceæ. Durum wheat.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received June 23, 1922.

"(June 3, 1922.) Red wheat from Tlemcen, Algeria." (Trabut.)

55557 and 55558. SOLANUM TUBEROSUM L. Solanaceæ. Potato.

From Ibarra, Ecuador. Presented by Sr. Jose Felix Tamayo. Received June 27, 1922. Quoted notes by Wilson Popenoe.

Seeds of the following potatoes, obtained for the use of plant breeders. Tubers of these varieties have been previously introduced; see S. P. I. Nos. 53190 and 53193.

55557. "*Cueruda blanca* (white cueruda) potato, 1921 crop, from the hacienda La Rinconada, in the Province of Carchi, where it is cultivated at altitudes between 11,000 and 12,000 feet.

"This is the most important commercial potato of Carchi Province. At Ibarra, where it is one of the favorite varieties on the market, it is known as *pastuza*. It yields heavily, and the whitish brown, somewhat flattened, oval tubers are of good size and quality. The eyes are very shallow and not numerous."

For previous introduction, see S. P. I. No. 53193.

55558. "*Cueruda morada* (purple cueruda) potato, 1921 crop, from the hacienda La Rinconada, Province of Carchi, where it is cultivated at altitudes between 11,000 and 12,000 feet.

"Commercially one of the best and most important varieties in northern Ecuador, though it is not quite so extensively grown as *cueruda blanca*. The tubers are oval, flattened, purple in color, with whitish areas around the shallow eyes; they possess excellent keeping qualities."

For previous introduction, see S. P. I. No. 53190.

55559 to 55562. DIOSCOREA ALATA L. Dioscoreaceæ.**Greater yam.**

From Montserrat, British West Indies. Tubers presented by W. Robson, curator, Agricultural Experiment Station. Received June 21, 1922. Quoted notes by R. A. Young.

55559. "*West White*. This is a white-fleshed yam, firm but mealy when cooked, and of good flavor. The vine is green, with narrow reddish wings at the four angles. Leaves long-ovate, cordate, acuminate; sinus fairly wide, but deep."

55560. "*West Red*. The inner skin of this yam is deep purple, and the flesh is purplish, mottled with deeper purple; it is mealy when cooked, but rather lacking in flavor. The wings on the vine are prominent and maroon colored. Leaves opposite, broadly ovate, cordate, acuminate; veins maroon; sinus deep and narrow; petiole maroon at base and apex."

55561. "*Barbados Red*. The inner skin is purple, and the flesh is light purple with scattered fibers of deeper purple. The flesh is rather firm, but mealy when cooked and of very good flavor. The vine has prominent maroon wings at the angles. Leaves opposite, ovate-cordate, acuminate; veins maroon; sinus deep and narrow, petiole maroon at base and apex."

For an illustration of this yam, see Plate VI.

55562. "*Bottle-Necked Lisbon*. This is a white-fleshed yam, which, when cooked, is mealy and of good flavor. The vine is green, with very narrow reddish wings. Leaves on young plants alternate, sagittate, basal lobes pointed; sinus very broad."

55563. AMYGDALUS PERSICA L. Amygdalaceæ.**Peach.**

(*Prunus persica* Stokes.)

Seedling selected at the Plant Introduction Garden, Chico, Calif., from seed obtained through John R. Putnam, American consul at Valencia, Spain, under S. P. I. No. 43570.

"Fruit large, yellow, with red blush. Flesh golden yellow throughout, of excellent flavor; pit small, not deeply grooved. Weight about 9 ounces.

Ripens at the Chico Plant Introduction Garden about August 20. This variety is of exceptional value as a commercial canning peach. Remains firm when cooked, maintains its delicate flavor, and does not require a very heavy sirup." (*J. E. Morrow.*)

55564. AMYGDALUS PERSICA L. Amygdalaceæ.
(*Prunus persica* Stokes.)

Peach.

Seedlings selected at the Plant Introduction Garden, Chico, Calif., from seed obtained through John R. Putnam, American consul at Valencia, Spain, under S. P. I. No. 43571.

"Fruits a fine golden yellow with red blush; basin deep, suture distinct; pit very small and yellow, not coloring the flesh. Flesh firm and of fine flavor. Should prove excellent for canning and a good shipper. Average weight of fruits about 5 ounces. Ripens at the Chico Plant Introduction Garden about August 20." (*J. E. Morrow.*)

55565. MILLETTIA MEGASPERMA (F. Muell.) Benth. Fabaceæ.

From Abergeldie, New South Wales. Seeds presented by Sir Hugh Dixon, Summer Hill. Received June 23, 1922.

"This plant is quite unlike Chinese or Japanese varieties of wistaria. It has dark-green foliage and is a rank grower when established; mine is growing over a park railing 90 feet long, 4 feet wide, and 5 feet high and has to be kept within bounds on width and height. It is not particular as to soil, but I would not advise a heavy clay. The plant stands 8 to 10 degrees of frost without injury. The flowers are darker purple than those of the Chinese variety, sweet scented, and are borne in dense panicles. It is a very shy seeder, with seldom more than one seed in a pod but it strikes root freely when layered and also from cuttings. The root of a layer afterwards potted had the largest number of nodules I have ever seen on any leguminous plant. It is an exceedingly rare plant simply because its good qualities are not known." (*Dixon.*)

For previous introduction, see S. P. I. No. 50518.

55566. ILEX PARAGUARIENSIS St. Hil. Aquifoliaceæ. Yerba maté

From Asuncion, Paraguay. Seeds presented by C. Fiebrig, director, Botanical Garden. Received May 27, 1922.

A small evergreen tree, native to Paraguay and Brazil, whose leaves are roasted and ground to make the Paraguay tea or *maté* of commerce. This plant may prove suitable for Florida and California.

For previous introduction, see S. P. I. No. 55489.

55567 and 55568. DIOSCOREA spp. Dioscoreaceæ.

Yam.

From Ogbomosh, Nigeria, Africa. Tubers presented by Dr. George Green. Received June 23, 1922. Quoted notes by R. A. Young.

55567. DIOSCOREA CAYENENSIS Lam.

Yellow Guinea yam.

(Nos. 11, 12, and 14.) "Three tubers, apparently all of the same variety, from a mixed lot. The flesh is cream colored instead of yellow, as in the variety of this species previously received from West Indian sources, and is less bitter; the quality is good. The vine is dark shiny green and thorny, with alternate leaves."

55568. DIOSCOREA ROTUNDATA Poir.

White Guinea yam.

(No. 1.) "The specimen received is white fleshed, mealy, and of fair flavor when cooked. The vine is round stemmed, glaucous, and armed on the lower parts with short but strong recurved thorns. The leaves are opposite and on the lower parts of the main stem are modified into peculiar bracts, from the axils of which arise lateral branches. The variety appears to be different in quality from the one commonly grown in Porto Rico."

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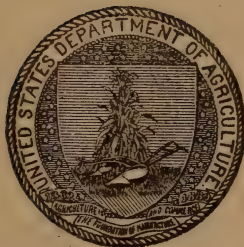
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U. S. DEPARTMENT OF AGRICULTURE.
BUREAU OF PLANT INDUSTRY.

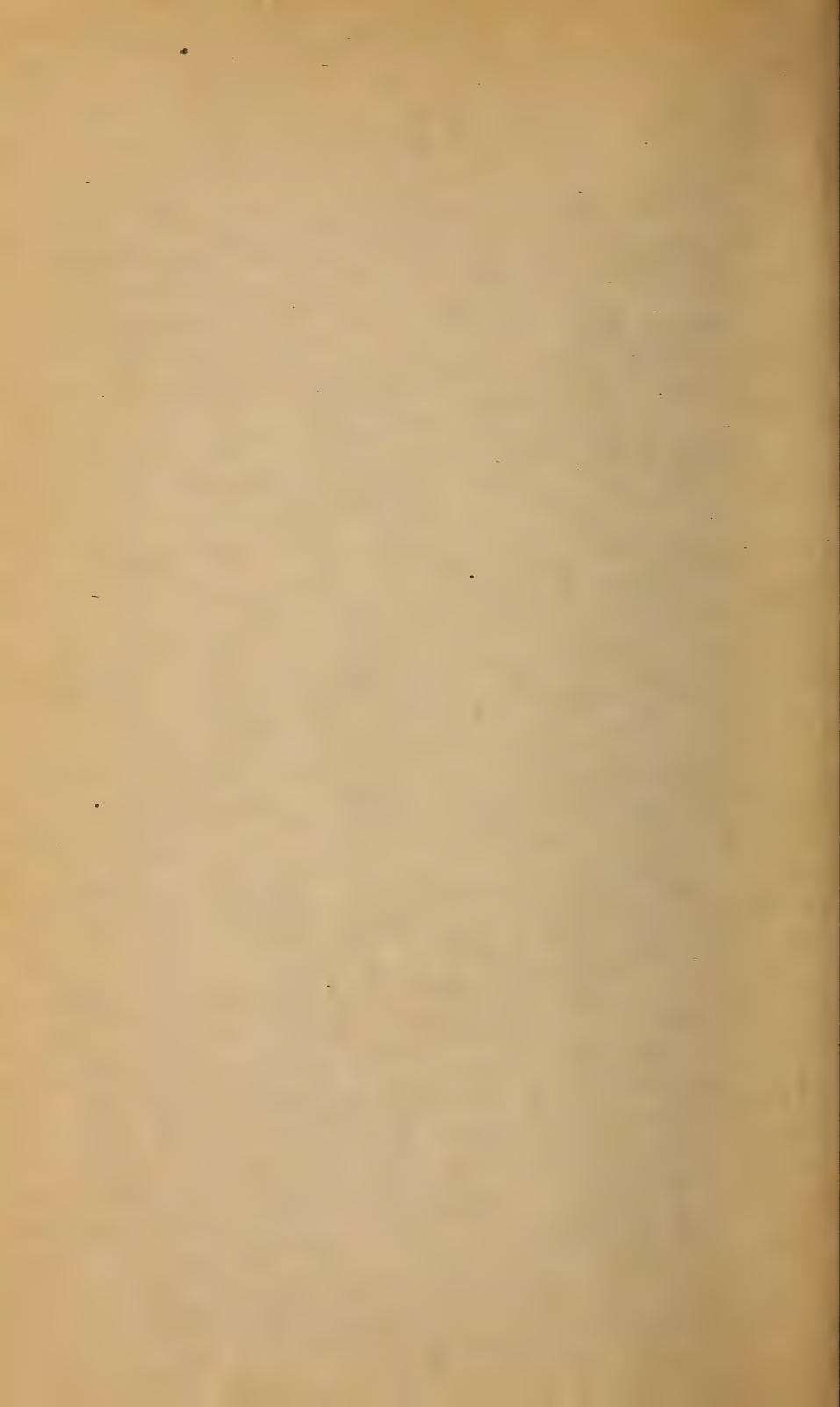
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(No. 72; Nos. 55569 to 55813.)



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INTRODUCTORY STATEMENT.

The Chinese Province of Yunnan has in the past yielded many interesting ornamental plants to European collectors, but this inventory records the first time that an agricultural explorer from the Department of Agriculture has penetrated its mountain slopes and vast plains, where a climate similar to that of our Atlantic seaboard prevails.

While no such severe weather as that of the Dakotas ever visits this back country of China, it is a land of heavy frosts, and plants from its plains may be expected to do well in many parts of our Eastern States, while those from its wetter mountain slopes will doubtless find a congenial home in the Puget Sound region.

The plants which appear in this inventory represent a small fraction only of the great collections which the department's explorer, J. F. Rock, has gathered under conditions of living and travel which would daunt any but the real enthusiast. His travels have taken him over hundreds of miles of almost impassable mountain trails and roads through regions where Chinese bandits abound and have necessitated a constant association month after month with people who neither understand what he is doing nor care regarding his fate.

From the Likiang Snow Range, at an altitude of 11,000 feet, Mr. Rock sent six rare lilies, one of them *Lilium sutchuenense* (No. 55609), and five others as yet undetermined (Nos. 55610, 55730, and 55778 to 55780). From Likiang he forwarded seeds of a white-flowered ornamental bush (*Prinsepia utilis*; No. 55719), a fine climbing rose (No. 55721), and a wild species of cherry (No. 55720) that grows to 50 feet in height which he suggests may be used as a stock for the cultivated cherries. At Nguluke, in the Likiang Valley, 8,000 feet above sea level, Mr. Rock found a small, sour, red-fruited apricot (*Prunus armeniaca*; No. 55729) of deliciously fragrant aroma, which is used there for stewing and jam making, and in the foothills of Talifu he obtained seeds of the rare cherry (*P. majestica*; No. 55732) which grows into large trees and has a vigor suggesting its use as a stock or as an ornamental flowering tree. Seeds from large freestone peaches (*Amygdalus persica*; Nos. 55775 and 55776) borne by trees growing wild near Puerhfu and seeds of a large-fruited plum (*Prunus* sp.; No. 55783) from the same region are part of his shipments which have recently arrived.

H. R. Wright, of Auckland, New Zealand, to whom the department is indebted for many valuable collections of new fruit varieties, has sent his "Sunrise" (No. 55740), a very early variety of peach, and "Watts Early" (No. 55741), a peach worth testing in Florida because of the unusually short resting period which it requires. He also sent the Groverly Navel orange (*Citrus sinensis*; No. 55743), which is reported to be a large-sized variety with a habit for cropping which should make it worth a trial both in California and Florida.

G. Weidman Groff, of the Canton Christian College, has sent from South China a collection of trees, including the mu-oil tree (*Aleurites montana*; Nos. 55647 to 55650), some varieties of persimmon (*Diospyros kaki*; Nos. 55659 and 55660), an undetermined species of *Diospyros* (No. 55662), an interesting rare ornamental (*Millettia dielsiana*; No. 55663), two varieties of the carambola (*Averrhoa carambola*; Nos. 55651 and 55652), a fruit tree recently attracting attention in southern Florida, and a large promising ornamental tree from the Five Finger Mountains (*Vageia cupressina*; No. 55664).

F. A. McClure, also of the Canton Christian College, secured for the department during his recent exploration of the island of Hainan, off the coast of South China, several interesting plants (Nos. 55626 to 55632) and from Lokong in Kwantung seeds of 13 named varieties of *Prunus mume* (Nos. 55633 to 55645), from which some valuable strains of this lovely flowering tree may originate in this country.

Prof. C. S. Sargent, of the Arnold Arboretum, has favored the department with material from a new hardy Chinese shrub (*Prinsepia sinensis*; No. 55711) whose yellow flowers appear very early in the spring and entitle it to a place in every North Atlantic garden, even should its fruits not meet with an enthusiastic reception in America. The genus with its several species is worthy of the attention of American horticulturists.

The success which attended the introduction through this office many years ago of the hairy Peruvian alfalfa is a matter of history. Crops of it worth several million dollars are grown every year in southern California. Growers will watch with interest the introduction now of the so-called San Pedrana variety (*Medicago sativa*; No. 55724) from Peru which, according to Mr. Dunn, is cut every 45 days.

Although it is yet too soon to predict the ultimate fate of the lowland Guatemalan anona in southern Florida, its growth there has been so satisfactory that a large quantity of seed of this species (*Annona diversifolia*; No. 55709) has been imported from Tapachula.

The so-called subterranean clover of Australia (*Trifolium subterraneum*; No. 55707), which was introduced several years ago, has shown so much promise in the Southern States that a second importation of seeds has been necessary.

A beautiful Australian shade tree, *Viter littoralis*, grew 30 feet tall at Del Monte, Calif., years ago, but was cut down by a temperature of 17° F. A New Zealand species of this same genus (*V. lucens*; No. 55620) may prove hardier than its relative.

It seems strange that a magnificent tree in the mountain gorges of the great African continent should be in danger of becoming extinct, but such is the case. In fact, so fast are some of the wonderful forest trees of the globe disappearing that our grandchildren, even when they circle the world through the air, will not have the supreme pleasure which the Afrianders had, as, traveling at a snail's pace with ox teams across the veldt, they stood in the presence of the leafy giants of the Milanji cypress, whose crowns rose 140 feet above the earth. From Southern Rhodesia W. L. Thompson, of the American Board Mission, has sent the department seed of this wonderful tree (*Callitris whytei*; No. 55602) which survives now only in the gorges of that region not visited by forest fires, and it is hoped that these may grow and establish themselves in other regions.

G. H. Cave, the curator of the Lloyd Botanic Gardens at Darjiling, to whom in the past the department has been indebted for many courtesies, has sent a remarkable collection of seeds of Himalayan ornamental and economic trees and shrubs (Nos. 55669 to 55706). It includes one of the hill bamboos (*Cephalostachyum capitatum*; No. 55676); a yellow-flowered clematis (*C. grewiaeiflora*; No. 55677); a species of that small genus to which belongs the Japanese loquat (*Eriobotrya hookeriana*; No. 55679) with egg-shaped yellow fruits three-fourths of an inch long, possibly useful for breeders or as a stock; *Ilex insignis* (No. 55682), which has proved hardy in Ireland; a bright-flowered Indigofera (No. 55683); the famous pink-flowered Himalayan magnolia (*Magnolia compbellii*; No. 55688); three species of Michelia (Nos. 55689 to 55691), trees with magnolialike flowers and foliage, one of them the principal timber tree of the Darjiling Hills; the Himalayan spruce (*Picea smithiana*; No. 55694); and a Himalayan cherry (*Prunus napaulensis*; No. 55696) from an altitude of 10,000 feet.

Guarana is a paste that is much used by the natives of the Amazon Valley to make a beverage which contains caffein and, like cacao and coffee, is a stimulant. It is prepared from the grapelike fruits of a climbing shrub (*Paullinia cupana*; No. 55738), the culture of which in Brazil has been a lucrative industry. Seeds of this shrub have been presented by Doctor da Costa, of Rio de Janeiro.

The so-called kiffy of Sierra Leone is the roasted seed of a cucum-berlike plant (*Cucumeropsis mannii*; No. 55792) which is used as a condiment by the natives in the preparation of their remarkable dish known as dumboy.

Doctor Shirai, of Komaba, Japan, has presented plants of two distinct varieties of *Elaeagnus multiflora* (Nos. 55771 and 55772), the "Ogumi" and the "Togumi." As this species grows well on the Atlantic seaboard, these two large-fruited varieties will be wanted by those who have the ordinary small-fruited form.

Doctor Shantz has imported, in order to test again, the narras (*Acanthosicyos horrida*; No. 55763), a melonlike fruit which the Hottentots grow on the sand dunes of the Kalahari Desert and upon which they live for months.

The wild black cherry (*Prunus serotina*) has been determined to be botanically identical with the capulin of Central America and northwestern South America; but, whereas Americans have done nothing to improve this native cherry, our southern neighbors have

by selection evolved from their wild capulin or native cherry a large delicious fruit which is borne in clusters and is sold on their markets (Nos. 55764 and 55765).

Norman M. Ross, who has for many years tested the dwarf pea tree in his Forestry Station at Indian Head, Canada, recommends for wide distribution throughout the Northwest this handsome shrub (*Caragana pygmaea*; No. 55769) of Siberia and furnishes seeds for that purpose.

The "Toeban" (*Arachis hypogaea*; No. 55810), an early-maturing bunch strain of peanut which is resistant to the bacterial disease prevalent in Java caused by *Bacterium solanacearum*, will interest peanut growers in America; and Mr. Morrow's new peach (No. 55813) that originated as a sucker at the Chico garden from a stock which was used for the Tangutian almond (*Amygdalus tangutica*) proves to be a week later than the Elberta and of finer texture than that standard variety.

The botanical determinations of seeds introduced have been made and the nomenclature revised by H. C. Skeels; and the descriptive and botanical notes have been arranged by Paul Russell, who has had general supervision of this inventory.

DAVID FAIRCHILD,
Agricultural Explorer in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., September 17, 1923.

INVENTORY.¹

55569 to 55572.

From Cuenca, Ecuador. Seeds presented by Dr. Federico Malo. Received July 24, 1922. Quoted notes by Doctor Malo.

55569 to 55571. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

"These are from the principal localities where alfalfa is produced; that which comes from the town of Guanando is considered especially good."

55569. "From Dr. José A. Avilez, town of Guano."

55570. "Purchased from Paula Iza, who brought it from Cuchibamba, near Ambato."

55571. "Obtained from Antonio Moyano and said to have been grown at Guanando."

55572. *TRIFOLIUM REPENS* L. Fabaceæ. White clover.

"This white-flowered clover from the vicinity of Burgay, near Biblian, is produced spontaneously; the stock are very fond of it."

55573 and 55574. *PHASEOLUS AUREUS* Roxb. Fabaceæ. Mung bean.

From Manila, Philippine Islands. Seeds presented by George S. Logan, through the Bureau of Foreign and Domestic Commerce, United States Department of Commerce. Received July 6, 1922.

These two varieties of the mung bean were originated at the Lamao Experiment Station. The mung bean is cultivated throughout southern Asia and the adjacent islands, where its seeds constitute a very important human food and its straw a valuable fodder.

55573. *Yellow mongo.*

55574. *Green mongo.*

55575 to 55578. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ. Tomato.

From Bogota, Colombia. Seeds presented by Q. U. Thompson. Received July 25, 1922.

These tomatoes are introduced from various places in Colombia in the hope of finding a strain which will prove immune to leaf-spot, a serious pest in this country.

55575. From Bogota.

55577. From Fusagasuga.

55576. From Girardot.

55578. From San Antonio de Tena.

¹It should be understood that the varietal names of fruits, vegetables, cereals, and other plants used in these inventories are those which the material bore when received by the Office of Foreign Seed and Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their identity fully established, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in these inventories will be subject to change with a view to bringing the forms of the names into harmony with recognized American codes of nomenclature.

55579. CYRTOSTACHYS LAKKA Beccari. Phenicaceæ. Palm.

From Singapore, Straits Settlements. Seeds presented by I. Henry Burkill, superintendent, Botanic Gardens. Received July 24, 1922.

A stately and elegant palm, native to the East Indies, with a slender spineless stem crowned by a cluster of boldly arched pinnate leaves 3 to 4 feet in length. It is distinguished by its red leaf sheaths. The fruits are elongate egg-shaped and about half an inch long. (Adapted from *Beccari, Annales du Jardin Botanique de Buitenzorg*, vol. 2, p. 141, and *Bailey, Standard Cyclopedia of Horticulture*, vol. 2, p. 947.)

J. F. Rock recommends this as a handsome ornamental plant, probably suitable for cultivation in southern Florida. It is doubtful whether it will withstand heavy frosts.

For previous introductions, see S. P. I. Nos. 49530 and 51870.

55580 to 55584.

From Canton, China. Plants presented by the Canton Christian College, through F. A. McClure. Received July 29, 1922. Quoted notes by Mr. McClure.

55580 and 55581. FORTUNELLA spp. Rutaceæ. Kumquat.

Introduced for department specialists engaged in citrus-breeding experiments.

55580. FORTUNELLA sp.

"(C. C. C. introduction No. 793.) Obtained from near a Chinese village (Sants'uen) in the island of Hainan, where it is found in a semicultivated state. The natives gather the fruits, which ripen in November, and eat them fresh or candy them. Some few of the fruits find their way to the markets, although they are not generally much in favor with the Chinese, owing to their acid taste. They have almost no seed, and in this respect are excellent for candying. The fruits are small, seldom attaining a size of more than an inch in diameter; the segments adhere to each other very firmly. The plants are never grafted, but are allowed to spring up from scattered seed."

55581. FORTUNELLA sp.

"(C. C. C. introduction No. 794.) Obtained from the wild in the Five Finger Mountains of the island of Hainan. I found the plant in flower in May. A few fruits at that time were brought to me by the natives. The flavor is rather sweeter than one would expect to find in wild fruits; these are not of commercial importance, as they are known only by the primitive tribes that inhabit the interior of the island. They gather the wild fruits and evidently consider them quite a delicacy, although they never take the trouble to plant the seeds near their houses. There is a slight prominence on the fruit at the stem end, which is characteristic."

55582 and 55583. PHYLLOSTACHYS spp. Poaceæ. Bamboo.

"These are grown for timber and also for food, the young shoots being eaten."

55582. PHYLLOSTACHYS sp.

"(C. C. C. observation No. 901.2.) *Tai t'au tim chuk*."

55583. PHYLLOSTACHYS sp.

"(C. C. C. observation No. 901.2.) *Ma chuk*."

55584. ZIZANIA sp. Poaceæ. Wild rice.

"(C. C. C. introduction No. 860.) *Kau sun*. This is grown by the Chinese in wet culture. The stock at the crown becomes infected with a smut, and the enlarged growth at that point is used as food. This product is very similar in appearance, texture, and flavor to the bamboo shoots and is prepared in the same manner."

55585. OXALIS TUBEROSA Molina. Oxalidaceæ.**Oca.**

From Tucuman, Argentina. Tubers presented by E. F. Schultz, horticulturist, Agricultural Experiment Station. Received July 31, 1922.

"A plant related to our common sheep sorrel, widely cultivated in Peru and Bolivia for the sake of its fleshy rootstocks, which are an important article of food. In some districts ocas are second only to potatoes, while in others ullucus (*Ullucus tuberosus* Caldas) are more important, or at least are sold more generally in the native markets. Ocas are eaten raw, as well as cooked, and are also frozen and dried. Ocas prepared in this last-mentioned way are called caya, a term corresponding to chuño, the name of the dried potatoes. Raw ocas, when first dug, have a distinctly acid taste, like sheep sorrel, but this is lost after the tubers have been exposed to the sun.

"The plant attains a height of 1 foot or more and has the general appearance of a large plant of sheep sorrel. The flowers are yellow, and the leaflets are folded at night or in wet weather, the same as the sheep sorrel.

"The varieties are numerous, though much fewer than in the case of the potato. Some are preferred for eating raw and others for the making of caya. The texture of the tubers is very tender and juicy. In form some are nearly cylindrical, while others are slender at the base and strongly thickened at the end. The colors vary from white or light pink through darker pinks or yellows to deep purplish red. The range of colors is much the same as in the ullucu, but no deep-yellow varieties were seen, nor any with spots, except that some have bands of deeper color across the eyes.

"In addition to the pleasing coloration, the surface of the tubers is smooth and clear, so that the general appearance is very attractive. The texture of the flesh is also very tender and crisp. If the taste should prove acceptable, ocas might become very popular for salads and pickles, if not for other purposes. The nature and habits of the plant indicate that it may be adapted to acid soils, which would be a distinct advantage in some parts of the United States." (*O. F. Cook.*)

For previous introductions, see S. P. I. Nos. 41168 to 41176.

55586. MEDICAGO SATIVA L. Fabaceæ.**Alfalfa.**

From Buenos Aires, Argentina. Seeds presented by D. S. Bullock, agricultural commissioner, Bureau of Agricultural Economics, United States Department of Agriculture. Received July 28, 1922.

Introduced for comparison and cultural experiments.

55587. PRUNUS SERRULATA Lindl. Amygdalaceæ.**Japanese flowering cherry.**

From Yokohama, Japan. Seeds purchased from the Yokohama Nursery Co. Received July 24, 1922.

Forma *lannesiana*. A variety of Japanese cherry known as *Mazakura* (synonym, *Dai Sakura*), used in Japan as a stock. Prof. Yugo Hoshino, of the Tohoku Imperial University at Sapporo, is quoted as follows in Hedrick's "Cherries of New York," p. 75: "In the northern part of Japan proper (main island) it is a common practice to graft European cherries on a special kind of Japanese cherry. This cherry has a peculiar character which fits it for propagation, namely, it roots very easily either from cuttings or by mound layering. It is grown by nurserymen only and is called *Dai Sakura*. It has a somewhat dwarfing influence on scions and hastens their fruiting age."

For previous introduction, see S. P. I. No. 38206.

55588. MICROCITRUS AUSTRALASICA (F. Muell.) Swingle. Rutaceæ.**Finger lime.**

From Dundas, New South Wales. Seeds presented by Herbert J. Rumsey. Received July 13, 1922.

"The finger lime is one of the most curious and interesting of the citrus fruits. The young plants have more or less horizontally arranged branchlets, with very short internodes and small oval young leaves, these much shorter than the stiff, erect spines. The flowers are small, and the fruits are long

and slender, 2½ to 4 inches long, with a loose pulp filled with a sour, rather strongly pungent juice. The shrub is native to the mountain scrubs of the coastal region of northern New South Wales and Queensland." (*W. T. Swingle.*)

"This relative of the citrus fruits has been used in creating several hybrids, chiefly with the Calomondin (*Citrus mitis*), a Philippine species (see S. P. I. Nos. 27724 to 27736); also with the Mexican lime and the common lemon. The fruits produced, as a rule, have resembled the finger lime more closely than the other parents, not being sufficiently juicy as compared with lemons or limes for economic use, and possessing a peculiar aromatic odor. Their use as citrus stocks and as hedge plants, particularly in the semiarid regions of the Southwest, seems worth a trial, and experiments along this line are under way." (*T. Ralph Robinson.*)

55589. *FRAGARIA* sp. Rosaceæ.

Strawberry.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received July 26, 1922.

Introduced for experiments in strawberry breeding.

"This form is close to *Fragaria nilgerrensis*; it has the same foliage and the same small white fruits with darker seeds, but it is more vigorous, and the fruits might be considered as edible, whereas in the type their taste is unpleasant." (*Vilmorin-Andrieux & Co.*)

55590 and 55591. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ.

Tomato.

From Buenos Aires, Argentina. Presented by D. S. Bullock, agricultural commissioner, Bureau of Agricultural Economics, United States Department of Agriculture. Received July 26, 1922. Quoted notes by E. F. Schultz, Tucuman Experiment Station.

These tomatoes are introduced for the use of specialists in breeding blight-resistant varieties.

"The variety most extensively planted here in Tucuman, especially in the Lules region, is known under the name of *Parana*. It is generally regarded as the most blight-resistant variety, but my own experience has led me to the conclusion that it is not completely resistant, although there are always a number of plants which do not suffer at all when the rest of the plants have died from the disease."

55590. "Seeds of *Parana* from Lules, Tucuman."

55591. "Seeds from blight-resistant plants of *Parana*, grown at the Tucuman Experiment Station in 1921."

55592 and 55593. *MUSA* spp. Musaceæ.

Banana.

From Kisantu, Belgian Congo. Seeds presented by Père J. Gillet, S. J., Jardin d'Essais de Kisantu. Received July 27, 1922. Quoted notes by Père Gillet.

"These bananas are handsomer and probably more hardy than *Musa ensete*; they grow in the mountains of Ruanda at altitudes of 6,500 feet or more."

55592. *MUSA* sp.

"An undetermined variety with white nerves."

55593. *MUSA* sp.

"An undetermined variety with red nerves."

55594 to 55597. *DIOSCOREA ALATA* L. Dioscoreaceæ.

Greater yam.

From Holguin, Cuba. Tubers presented by Thomas R. Towns. Received July 24, 1922. Quoted notes by R. A. Young.

55594. *Pelua*. "A white-fleshed yam, comparatively small; tubers said to weigh 3 pounds each. Vine four angled, with narrow pale-maroon wings. Leaves broadly ovate, cordate, plain green."

55594 to 55597—Continued.

55595. *Frances*. "A white-fleshed yam; said to weigh up to 25 pounds or more in each hill. Vine four angled, with pale-maroon wings. Leaves alternate, broadly ovate, cordate, acuminate; sinus fairly deep and narrow."

55596. *Kohl-E-Patta*. "A white-fleshed yam whose tubers are said to weigh as much as 25 pounds to the hill."

55597. *Morado*. "This yam has purple inner skin and white flesh; it is said to weigh up to 25 pounds or more in each hill. The vine is four angled, with narrow maroon wings. Leaves broadly ovate, cordate, acuminate; sinus deep and narrow; petioles maroon at base and apex."

55598. *CLAUCENA LANSIUM* (Lour.) Skeels. Rutaceæ. **Wampi.**
(*C. wampi* Oliver.)

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, Department of Botany and Forestry, Experiment Station of the Hawaiian Sugar-Planters' Association. Received August 3, 1922.

The wampi is a very ornamental small tree, 18 to 20 feet in height; in the spring it bears small dense panicles of whitish sweet-scented flowers, and in midsummer appear the grapelike clusters of edible berries. The individual fruits are about the size of a large marble, with a rough, pale straw-yellow, orangelike rind covered with glands filled with green balsamic oil; the rather large seeds, one to three in number, are inclosed in colorless juicy pulp which has an agreeable aromatic acid flavor. The wampi is a native of South China, where the berries are highly esteemed, both as a dessert fruit and for preserves. Propagation is by seeds and layering. (Adapted from *Report of Hawaii Agricultural Experiment Station, 1914, p. 33.*)

For previous introduction and illustration, see S. P. I. No. 45328.

55599 to 55601.

From Richmond, Victoria. Seeds presented by F. H. Baker. Received July 29, 1922.

55599. *CASSIA LAEVIGATA* Willd. Cæsalpiniaceæ.

An erect shrubby ornamental cassia several feet in height, with axillary and terminal racemes of large yellow flowers and cylindrical leathery pods, 2 to 3 inches long, inflated when ripe. Native to Queensland and New South Wales. (Adapted from *Bentham, Flora Australiensis, vol. 2, p. 282.*)

For previous introduction, see S. P. I. No. 53851.

55600. *INDIGOFEA AUSTRALIS* Willd. Fabaceæ.

An attractive shrub 2 to 4 feet high, with erect branches, finely divided compound leaves, and dense racemes of very showy violet-red flowers. (Adapted from *Bentham, Flora Australiensis, vol. 2, p. 199.*)

For previous introduction, see S. P. I. No. 47152.

55601. *KENNEDIA MONOPHYLLA* Vent. Fabaceæ.
(*Hardenbergia monophylla* Benth.)

An ornamental Australian vine, with alternate smooth leaves and a profusion of blue flowers borne in stalked racemes. The long carrot-shaped somewhat woody root is called "sarsaparilla" by the natives and is used in infusion as a substitute for that root. (Adapted from *Lindley, Treasury of Botany, vol. 1, p. 569.*)

For previous introduction, see S. P. I. No. 51757.

55602. *CALLITRIS WHYTEI* (Rendle) Engl. Pinaceæ.
(*Widdringtonia whytei* Rendle.)

From Mount Silinda, Southern Rhodesia. Presented by W. L. Thompson, American Board Mission. Received July 24, 1922.

"Native cedar of this region. These seeds are from trees in our own grounds." (*Thompson.*)

The *Milanji cypress* was originally found at an altitude of 10,000 feet on Mount Milanji, in Nyasaland, by Alexander Whyte. It is a magnificent tree reaching a height of 140 feet, sometimes with a clear straight trunk for 90 feet and a diameter of 5½ feet at 6 feet from the base. The pale reddish timber is of excellent quality and easily worked. The bark on old trees is of great thickness. These fine trees are rapidly disappearing before the forest fires, only those in damp gorges surviving. (Adapted from *Transactions of the Linnean Society*, 2d ser., vol. 4, p. 60, and *Gardener's Chronicle*, 3d ser., vol. 37, p. 18.)

For previous introduction, see S. P. I. No. 52807.

55603. PHLEUM PRATENSE L. Poaceæ. Timothy.

From Roskilde, Denmark. Presented by Danske Landboforeninger Frøforsyning. Received August 2, 1922.

Timothy seed produced locally for several seed generations; introduced for breeding experiments.

55604. PHLEUM PRATENSE L. Poaceæ. Timothy.

From Prague, Czechoslovakia. Presented by Basil Benzin. Received July 31, 1922.

Locally grown seed introduced for timothy breeding experiments.

55605 and 55606. RUMEX spp. Polygonaceæ.

From Okitsu, Japan. Seeds presented by T. Onda, director. Government Horticultural Experiment Station. Received August 2, 1922.

These sorrels, which are used as salad vegetables in Japan, are introduced for trial as food for diabetics.

55605. RUMEX ACETOSA L. Sorrel.

Suiba.

55606. RUMEX CRISPUS L. Curly dock.

Variety *japonicus*. *Gishi-gishi.*

55607. BOWENIA SPECTABILIS Hook. Cycadaceæ.

From Brisbane, Queensland. Seeds presented by C. T. White. Government botanist. Received August 1, 1922.

An Australian cycad with a short, thick, cylindrical stem which bears at the summit one or two large, very graceful, compound fernlike leaves. It makes a charming little ornamental and should thrive well in lath houses in Florida when given proper shade, a good supply of moisture, and soil rich in humus. (Adapted from *Curtis's Botanical Magazine*, pl. 5398, and *Bailey, Standard Cyclopedia of Horticulture*, vol. 1, p. 537.)

55608. PRUNUS TOMENTOSA ENDOTRICHA Koehne. Amygdalaceæ. Bush cherry.

From Jamaica Plain, Mass. Cuttings presented by Dr. C. S. Sargent, Arnold Arboretum. Received August 9, 1922.

A large spreading shrub or small tree with densely hairy branches, dark-green, toothed, sharp-pointed leaves about 3 inches long, solitary white flowers three-fourths of an inch across, and dark-red fruits about half an inch in diameter. The plant is found native in western Hupeh and northern Shensi, China. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 225.)

55609 and 55610. LILIUM spp. Liliaceæ. Lily.

From Likiang, Yunnan, China. Bulbs collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received August 9, 1922. Quoted notes by Mr. Rock.

55609 to 55610—Continued.

55609. *LILIUM SUTCHUENENSE* Franch.

Lily.

"(No. 4402. Likiang, Yunnan. June 13, 1922.) A lily 3 to 4 feet in height, growing among limestone rocks and along brooks in scrub vegetation at an altitude of 10,000 to 11,000 feet on the Likiang Snow Range, near the Moso village of Nguluke. The flowers are borne at the apex of the stem in twos and threes and are very variable in color, ranging from orange-yellow to red and reddish brown, the inner part of the corolla being spotted purple."

55610. *LILIUM* sp.

Lily.

"(No. 4532. Likiang, Yunnan. June 17, 1922.) A plant 2 to 2½ feet high, growing among limestone crags in pine and fir forests at altitudes of 12,000 feet and higher. These bulbs were collected on the slopes of the Likiang Snow Range. The flowers, which are smaller than those of *Lilium sutchuenense*, are green and marked on the outside and inside with deep purplish spots. The lobes are much reflexed, making the perianth pitcher shaped. This species is not common, while *L. sutchuenense* is found more frequently."

55611 to 55615. *PHOENIX* spp. *Phœnicaceæ*.

Palm.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received July 25, 1922.

"These Phoenix hybrids are all small plants, developing shoots from the base, and are highly ornamental. They have proved quite hardy here, withstanding the severe frost of 1920 (20° or 21° F.), the lowest temperature since 1829." (*Proschowsky*.)

55611. *PHOENIX* sp.55614. *PHOENIX* sp.

(No. 1.)

(No. 4.)

55612. *PHOENIX* sp.55615. *PHOENIX* sp.

(No. 2.)

(No. 5.)

55613. *PHOENIX* sp.

(No. 3.)

55616. *PHLEUM PRATENSE* L. *Poaceæ*.

Timothy.

From Prague, Czechoslovakia. Presented by Basil Benzin. Received August 12, 1922.

Locally grown timothy seed introduced for the use of forage-crop specialists.

55617 and 55618.

From Aitutaki, Cook Islands. Tubers presented by W. T. Hewett. Received August 11, 1922. Quoted notes by R. A. Young.

55617. *COLOCASIA ESCULENTA* (L.) Schott. *Araceæ*.

Taro.

"*Taro-repo*. A taro with slightly pink buds."

55618. *XANTHOSOMA* sp. *Araceæ*.

Yautia.

"A white-fleshed yautia of good quality, received under the name 'taro-tarua.' The buds are very slightly tinged with pink."

55619 and 55620.

From Auckland, New Zealand. Seeds presented by Stanley G. Chambers, secretary, Auckland Acclimatisation Society. Received August 11, 1922.

55619. *RHOPALOSTYLIS SAPIDA* (Soland.) Wendl. and Drude. *Phœnicaceæ*.

Nikau.

An elegant palm from New Zealand; it is of peculiar interest because of its distribution, as it occurs farther south than any species of palm in either Australia or South America, being found at 38° 22' south lati-

55619 to 55620—Continued.

tude. The pinnate leaves, 4 to 6 feet in length, are borne on a trunk 6 to 12 feet high, and the very numerous flowers, occurring on a densely flowered, much-branched spadix, are pale pink. The young inflorescence is eaten by the natives of New Zealand. (Adapted from *Curtis's Botanical Magazine*, pl. 5139.)

For previous introduction, see S. P. I. No. 54298.

55620. *VITEX LUCENS* Kirk. Verbenaceæ.

Puriri.

A fine tree, from 50 to 60 feet in height, native to New Zealand, but restricted to the northern part of North Island. It is often called the New Zealand oak on account of the strength and durability of its wood, which is not injured by damp or exposure and is therefore extremely valuable for shipbuilding purposes. The logs are often perforated with holes, the work of a soft-bodied grub which develops into the puriri moth. These holes do not affect the timber except that it sometimes has to be cut to disadvantage.

The handsome, bright glossy green leaves are three to five foliolate with leaflets 3 to 4 inches long. The pink or red 2-lipped flowers, produced more or less all the year round, are in axillary clusters of four to eight. The roots of the puriri never penetrate deeply into the ground, but lie near the surface, so the tree is easily blown over in a gale. (Adapted from *Laing and Blackwell, Plants of New Zealand*, p. 350.)

For previous introduction, see S. P. I. No. 47881.

55621. *ILEX PARAGUARIENSIS* St. Hil. Aquifoliaceæ. Yerba maté.

From Buenos Aires, Argentina. Plants presented by D. S. Bullock, agricultural commissioner, Bureau of Agricultural Economics, United States Department of Agriculture. Received August 9, 1922.

A small, bushy evergreen tree with alternate serrate leaves, native to Brazil and Paraguay and the neighboring countries. The leaves are roasted and ground to make the Paraguay tea of commerce, which is said to possess the desirable properties of tea and coffee without their injurious aftereffects.

For previous introduction, see S. P. I. No. 55489.

55622. *DATURA LEICHHARDTII* F. Muell. Solanaceæ.

From Brisbane, Queensland. Seeds presented by C. T. White, Government botanist. Received August 9, 1922.

Introduced for the use of geneticists working on the chromosome behavior of this genus.

A tall coarse herb with irregularly toothed oval leaves 3 to 4 inches long, pale yellowish white flowers about 3 inches in length, and very prickly globular capsules about an inch in diameter. The plant is native in northern Australia. (Adapted from *Bentham, Flora Australiensis*, vol. 4, p. 468.)

55623. *PHLEUM PRATENSE* L. Poaceæ.

Timothy.

From Christiania, Norway. Presented by Dr. N. Wille, director, Botanic Garden. Received August 8, 1922.

"This strain of timothy is from Lierfoss, Norway, where seed culture has been carried on for 20 years." (*Wille.*)

Locally grown seed introduced for timothy breeding experiments.

55624. *CITRUS* sp. Rutaceæ.

From Johannesburg, Transvaal. Seeds presented by Col. A. J. Bester. Received August 15, 1922.

"When I visited the great Symbabian ruins in central Africa in 1911 I discovered a new citrus fruit; I collected seeds and brought them back, and now the variety is distributed all over the Transvaal. The smooth-skinned fruits are much like a big lime in shape and the abundant fine-flavored juice is very sweet." (*Bester.*)

55625. PERSEA AMERICANA Mill. Lauraceae.**Avocado.***(P. gratissima Gaertn. f.)*

From Honolulu, Hawaii. Budwood presented by Gerrit P. Wilder. Received August 16, 1922.

Wilder. Grown by Gerrit P. Wilder at his residence in Honolulu, a seedling from the Guatemalan variety *McDonald* growing at 1402 Punahou Street, Honolulu. An account of the introduction of the *McDonald* from Guatemala is given in Bulletin 25, p. 43, Hawaii Agricultural Experiment Station, as follows:

"About 20 years ago Admiral Beardsley, leaving Guatemala for Hawaii, carried with him a number of avocados for consumption on the way. He saved two seeds, wrapping them in cotton wool and packing them in ice. Arriving in Honolulu, he gave one seed to Judge Wiedeman and the other to Mrs. E. K. Wilder. The former was planted at 1402 Punahou Street, now occupied by 'The McDonald,' and although both seeds grew, the 'McDonald' is far superior in quality and blooms earlier."

A formal description of the fruit of the *Wilder* variety is as follows:

Form nearly round; size large, average weight about 1 pound; stem thick, tough; apex broadly rounded; surface light olive green; flesh yellow, shading into light green near the skin and easily separated from the latter, oily, rich and nutty in flavor; season October to January in Honolulu.

The tree is vigorous, inclined to grow upward rather than to branch out, but can stand pruning. The variety is valuable as a late avocado.

An analysis of the fruit (analysis 1747, University of California, 1915) is as follows: Weight (in ounces)—fruit, 25.70; seed, 6.42; skin, 2.54; edible portion, 16.88. Analysis of edible portion (per cent)—protein, 1.31; fat, 15.87; ash, 0.86; carbohydrates, 5.15.

55626 to 55632.

From the island of Hainan, China. Seeds presented by the Canton Christian College, through F. A. McClure. Received August 14, 1922. Quoted notes by Mr. McClure.

Collected by Mr. McClure in April and May, 1922. The Canton Christian College introduction numbers are in parentheses.

55626. COMBRETUM sp. Combretaceæ.

"(No. 853.) An ornamental shrub about 6 feet high, growing on open hillsides at an altitude of about 1,600 feet."

55627. DIOSPYROS sp. Diospyraceæ.**Persimmon.**

"(No. 856.) A tree 40 to 50 feet high and 2 feet in diameter, growing near the Five Finger Mountains, at an altitude of 3,300 to 5,000 feet. The fruits are eaten by the natives."

55628. FICUS sp. Moraceæ.**Fig.**

"(No. 847.) A small ornamental shrub up to 5 feet in height, collected in sandy soil at an altitude of 100 to 165 feet. The bright-red figs are edible."

55629. PANDANUS TECTORIUS Parkins. Pandanaceæ.

"(No. 858.) This plant, which sometimes reaches a height of 10 or 12 feet if unmolested, is used extensively as a hedge plant in Hainan, chiefly below an altitude of 1,000 feet. The spherical fruits, about 8 inches in diameter, are bright orange-yellow when ripe."

55630. RUBUS sp. Rosaceæ.

"(No. 848.) An edible wild berry found in sandy soil at an altitude of 100 to 165 feet."

55631. RUBUS sp. Rosaceæ.

"(No. 849.) An edible wild berry found in clay loam on hillsides at an altitude of about 3,300 feet."

55626 to 55632—Continued.

55632. *CURCUMA ZEDOARIA* (Bergius) Roscoe. Zinziberaceæ.

"(No. 857.) Rhizomes of 'hak sam keung' (black-hearted ginger); the flowers are rich pink, and a dark purple in the center of the leaves, as well as in the rhizome, gives the plant its name. It is found most abundantly in sandy soil in thickets and along streams and is a very promising ornamental for semitropical regions"

55633 to 55645. *PRUNUS MUME* Sieb. and Zucc. Amygdalaceæ.
Japanese apricot.

From Lokong, Kwangtung, China. Seeds presented by the Canton Christian College, through F. A. McClure. Received August 14, 1922. The Canton Christian College observation numbers are in parentheses.

55633. (No. 601.5-B2) *Cha Ip mui*.55634. (No. 601.5-C) *Cha Ip mui*.55635. (No. 601.18) *Hak Lok Tsai mui*.55636. (No. 601.-E) *Hang mui*.55637. (No. 601.11-B) *Hank mui chie*.55638. (No. 601.7-C) *Hung mui*.55639. (No. 601.6-C-C) *Ngo Shu mui*.55640. (No. 601.19) *Sun Ngan Au mui*.55641. (No. 601.10-C) *Tai mui*.55642. (No. 601.20) *Tai Wang Wat mui*.55643. (No. 601.4-C2) *Tai Wat Tsing mui*.55644. (No. 601.4-D) *Tai Wat Tsing mui*.55645. (No. 601.8-C) *Wang Wat mui*.55646. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

From Peking, China. Purchased from Dr. R. G. Mills. Received August 19, 1922.

Native-grown seeds introduced for alfalfa breeding experiments.

55647 to 55668.

From Canton, China. Seeds presented by G. Weidman Groff, general director, Canton Christian College. Received May 22, 1922. Numbered September, 1922. Quoted notes by F. A. McClure, of the Canton Christian College.

The Canton Christian College introduction numbers are in parentheses. Native names romanized from the Cantonese dialect.

55647 to 55650. *ALEURITES MONTANA* (Lour.) Wilson. Euphorbiaceæ.
Mu-oil tree.

"This is the *mu-yu shu* (literally, wood-oil tree) of southern China. It is less hardy than the tung-oil tree, *Aleurites fordii*, and 2-year-old specimens growing at Tallahassee, Fla., were killed by cold in February, 1917. The oil is practically identical with tung oil. The fruit differs from that of *A. fordii* in having an irregularly ridged surface when mature and the young leaves in being much more deeply lobed than those of that species." (R. A. Young.)

55647. "*Shek Lut*, or *Tung Yau Tsz*. Secured in the autumn of 1921 through Rev. F. Fritz, from Moilim, northeastern Kwangtung"

55648. "(No. 785.)"

55650. "(No. 789.)"

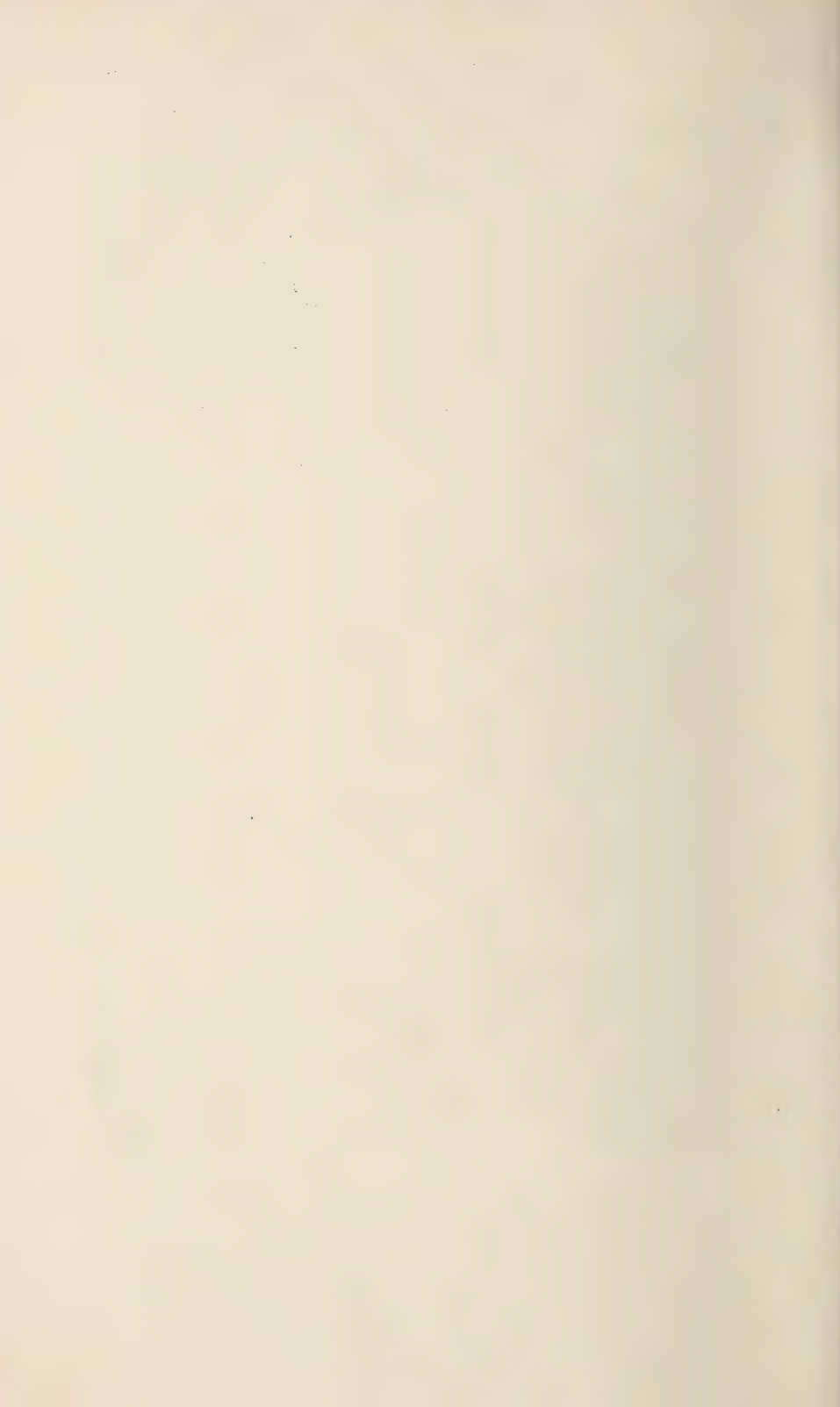
55649. "(No. 788.)"

For an illustration of the young tree, see Plate I.



A YOUNG SPECIMEN OF THE MU-YU SHU, OR MU-OIL TREE. (*ALEURITES MONTANA* (LOUR.) WILSON; S. P. I. NOS. 55647 TO 55650.)

Mu oil, yielded by the seeds of *Aleurites montana*, is practically identical in character with tung oil, obtained from *A. fordii* Hemsl. It is a valuable drying oil, used in the varnish, paint, and many other industries. The mu-oil tree is less resistant to frost than the tung-oil tree, and the specimen here shown, grown at the Live Oak Plantation, Tallahassee, Fla., was killed by the freeze of February, 1917. The leaves of young trees of this species are much more deeply lobed than those of the tung-oil tree (Photographed by R. A. Young, Tallahassee, Fla., August 11, 1916; P19856FS.)





THE CARAMBOLA, A FAVORITE FRUIT OF SOUTHERN CHINA. (AVERRHOA CARAMBOLA L.; S. P. I. Nos. 55651 AND 55652.)

The peculiar winged fruits of the carambola are highly acid in character and are eaten by the Chinese with fish, meats, and other foods. When fully ripe they are deep yellow and sweet enough to be eaten out of hand, though they are not greatly relished in this form. The tree can be grown successfully in southern Florida, but it is too tender for cultivation in other parts of the United States. (Photographed by Wilson Popenoe at Rio de Janeiro, Brazil, March 18, 1914; P15001FS.)



AN ATTRACTIVE RELATIVE OF THE MAGNOLIAS. (MICHELIA EXCELSA
BLUME; S. P. I. No. 55690.)

As ornamental plants for the warmer portions of the United States the various species of magnolias have acquired great and well-deserved popularity, and it may be expected that *Michelia excelsa*, which belongs to the same family and whose handsome flowers are here shown, will some day be widely cultivated in the southernmost parts of this country. This tall tree is native in the temperate Himalayas of northeastern India at altitudes of about 5,000 feet. The large narrow leaves are silky brown beneath, and the beautiful white flowers are 4 to 5 inches across. (Photographed by J. F. Rock in northeastern India, in 1920; P22780FS.)

55647 to 55668—Continued.

55651 and 55652. *AVERRHOA CARAMBOLA* L. Oxalidaceæ. **Carambola.**

"Seeds from fruits purchased in the market at Canton by a Chinese student experienced in fruits. Both are cultivated by the natives."

55651. "(No. 651.) *Yeung To*. A sweet variety eaten out of hand."

55652. "(No. 652.) *Saam Nim*. A sour variety."

For an illustration of the fruit and foliage, see Plate II.

55653. *CALAMUS* sp. Phœnicaceæ.

Rattan.

(No. 659.) *Wong t'ong*. Collected in December, 1921, from the Five Finger Mountains, interior of Hainan. The long vinelike stems are gathered by natives, dried, and sold to Hakka traders, who export them from Hainan as one of the rattans of commerce."

55654. *CASTANOPSIS* sp. Fagaceæ.

"(No. 664.) *Kwai lan yui* (Cantonese). Collected near Hongmatsuen, a Loi village in the interior of Hainan. The nuts are used by the natives as food."

55655. *CHAENOMELES* sp. Malaceæ.

"(No. 650.) *Sz chuen muk kwa*. Purchased in February, 1922, on the street in Canton. The fruit is used by the Chinese in making a rice wine; it makes good jelly and has been tried successfully here at the Canton Christian College."

55656. *COIX LACRYMA-JOBI* L. Poaceæ.

Job's-tears.

"(No. 685.) *I mai*. Collected in December, 1921, on the island of Hainan. According to my Chinese assistant, a species of this genus is used by the people of Shinhing, West River, Kwangtung, as fish food, and a famous brand of soft-boned fish is the result."

55657 and 55658. *COLOCASIA ESCULENTA* (L.) Schott. Araceæ. **Taro.**

"Tubers from the Canton market in September, 1921, and grown in the Canton Christian College gardens for one season."

55657. "(No. 780.) *Hung Nga oo* (red sprouted)."

55658. "(No. 782.) *Paak oo* (white)."

55659 to 55662. *DIOSPYROS* spp. Diospyraceæ.

55659 and 55660. *DIOSPYROS KAKI* L. f. **Kaki.**

"*Sai Paat tsz*. Obtained in September, 1921, by a Chinese student of fruits from Lohkongtung, Kwangtung."

55659. "(No. 653.)"

55660. "(No. 654.)"

55661. *DIOSPYROS LOTUS* L.

"(No. 655.) *Kaau tsai*. Obtained in Lohkongtung, Kwangtung. A wild species, the pulp of which is used in Canton to make a kind of waterproofing material."

55662. *DIOSPYROS* sp.

Persimmon.

"(No. 695.) *Tsz*. Collected from the Five Finger Mountains of the interior of Hainan, near the Loi village of Yiktsokmaau."

55663. *MILLETTIA DIELSIANA* Harms. Fabaceæ.

"(No. 662.) Collected by F. A. McClure, October 25, near Notia, island of Hainan. This promising ornamental is a shrub in the open, but becomes vinelike when grown in the shade of tall trees. The fruits are the shape and color of oranges and about 2 to 3 centimeters in diameter."

55647 to 55668—Continued.

55664. *NAGEIA CUPRESSINA* (R. Br.) F. Muell. *Taxaceæ*.
(*Podocarpus javanicus* Merr.)

"(No. 666.) *Yat poon tsung* (Cantonese). Collected in the Five Finger Mountains, interior of Hainan, in December, 1921. A large tree, becoming 50 meters (164 feet) in height and 2 meters (6½ feet) in diameter. It is a promising ornamental and possibly a timber tree."

For previous introduction, see S. P. I. No. 49546.

55665. *PHOENIX* sp. *Phenicææ*.

Palm.

"(No. 663.) A tree resembling the date palm, with edible fruit. Seeds collected near Noda, island of Hainan, November, 1921."

55666. *RUBUS FIMBRILIFERUS* Focke. *Rosaceæ*.

"(No. 657.) *She p'aau lak*. Collected in December, 1921, on open grassy hillsides near Yiktsokmaau, interior of Hainan."

A species of *Rubus* native to southern China, especially the vicinity of Hongkong; the oval heart-shaped densely hairy leaves are about 4 inches long. The flowers and the red hemispherical fruits appear in the axils of the lower branches. (Adapted from Focke, *Bibliotheca Botanica*, vol. 72, p. 80.)

55667 and 55668. *SACCHARUM* spp. *Poaceæ*.

Grass.

55667. *SACCHARUM ARUNDINACEUM* Retz.

"(No. 644.) A very tall, promising ornamental grass, collected near Namfung, Hainan, in December, 1921."

55668. *SACCHARUM SPONTANEUM* L.

"(No. 690.) A promising ornamental grass collected in November, 1921, near Noda, Hainan."

55669 to 55706.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received August 2, 1922.

55669. *ACER CAMPBELLII* Hook. f. and Thoms. *Aceraceæ*.

Maple.

One of the principal maples of the northeastern Himalayas, where it grows at an altitude of 7,000 feet or more. The beautiful green leaves with their red stalks make this tree decidedly ornamental. The grayish white moderately hard wood is used for planking and cabinet work. (Adapted from Watt, *Dictionary of the Economic Products of India*, vol. 1, p. 69.)

For previous introduction, see S. P. I. No. 47629.

55670. *ALNUS NEPALENSIS* D. Don. *Betulaceæ*.

Alder.

The Nepal alder is a tall, sparsely branched, rapid-growing deciduous tree found in many places along streams in the temperate Himalayas. The leaves are oval or oblong, and the irregular winged nuts ripen in March. The bark is used for dyeing and tanning, and the rather soft, reddish white wood is used for making boxes. (Adapted from Watt, *Dictionary of the Economic Products of India*, vol. 1, p. 176.)

For previous introduction, see S. P. I. No. 50714.

55671 to 55673. *BERBERIS* spp. *Berberidaceæ*.

Barberry.

55671. *BERBERIS INSIGNIS* Hook. f. and Thoms.

A beautiful hollylike bush of erect habit, with very few spines and large shining evergreen leaves 3 to 7 inches in length. The golden yellow flowers are borne in clusters of about 15 and are followed by ovoid black berries. Native to the eastern Himalayas. (Adapted from Hooker, *Flora of British India*, vol. 1, p. 111.)

For previous introduction, see S. P. I. No. 47645.

55669 to 55706—Continued.

55672. *BERBERIS NAPAULENSIS* (DC.) Spreng.

An erect shrub, 3 to 20 feet high, native to the temperate Himalayas at altitudes of 4,000 to 8,000 feet. It is leafy only near the top, the leaves being 6 to 18 inches in length, with leathery leaflets. The flowers are borne in erect dense-flowered racemes, and the bitter, violet fruits are about half an inch in diameter. (Adapted from *Hooker, Flora of British India, vol. 1, p. 109.*)

For previous introduction, see S. P. I. No. 50715.

55673. *BERBERIS WALLICHIANA* DC.

An evergreen barberry found in forests of the temperate Himalayas at altitudes of 8,000 to 10,000 feet. The leaves are narrow and the flowers, which are borne many in a cluster, are followed by oval or oblong shining black-purple berries. (Adapted from *Hooker, Flora of British India, vol. 1, p. 110.*)

55674. *BUCKLANDIA POPULNEA* R. Br. Hamamelidaceæ.

A large evergreen tree, up to 80 feet in height, native to the eastern Himalayas at altitudes of 3,000 to 8,000 feet. The wood is grayish brown, close grained, and durable and is very much used in Darjiling for planking and for doors and window frames. (Adapted from *Watt, Dictionary of the Economic Products of India, vol. 1, p. 545.*)

For previous introduction, see S. P. I. No. 47649.

55675. *BUDDLEIA COLVILEI* Hook. f. Loganiaceæ.

A shrub or small tree 15 to 20 feet high from the vicinity of Sikkim, India, where it is found at altitudes of 9,000 to 12,000 feet. The oblong toothed leaves are about 6 inches long and the crimson flowers, an inch in length, are borne in large loose terminal clusters. (Adapted from *Hooker, Flora of British India, vol. 4, p. 81.*)

55676. *CEPHALOSTACHYUM CAPITATUM* Munro. Poaceæ. Bamboo.

A bamboo from the hills of Sikkim, India, which develops strong, slender, yellow stems up to 30 feet in height. These stems are used by the natives for bows and arrows, and the leaves are considered good fodder. (Adapted from *Gamble, Manual of Indian Timbers, p. 429.*)

55677. *CLEMATIS GREWIAEFLOA* DC. Ranunculaceæ.

A large woody climber with densely hairy, deeply 5-lobed leaflets and many-flowered panicles of hairy, tawny yellow flowers, with oblong sepals $1\frac{1}{2}$ inches long. The plant is native to the lower temperate and sub-tropical Himalayas at altitudes of 3,000 to 5,000 feet. (Adapted from *Johnson's Gardener's Dictionary, p. 230*, and *Hooker, Flora of British India, vol. 1, p. 6.*)

For previous introduction, see S. P. I. No. 33765.

55678. *CRACCA CANDIDA* (DC.) Kuntze. Fabaceæ.
(*Tephrosia candida* DC.)

A low shrub with slender velvety branches, smooth green leaves 6 to 9 inches long, with gray-silky lower surfaces, and copious terminal and lateral racemes of reddish or white flowers. The shrub is native to the more tropical of the Himalayas, ascending to 5,000 feet altitude. (Adapted from *Hooker, Flora of British India, vol. 2, p. 111.*)

For previous introduction, see S. P. I. No. 50363.

55679. *ERIOBOTRYA HOOKERIANA* Decaisne. Malaceæ.

A small stout-branched tree with thick leathery oblong sharply toothed leaves up to a foot in length, large panicles of small white flowers, and egg-shaped yellow fruits about three-fourths of an inch long. It is a native of the eastern Himalayas at altitudes of 6,500 to 8,000 feet. (Adapted from *Hooker, Flora of British India, vol. 2, p. 371.*)

For previous introduction, see S. P. I. No. 50717.

55669 to 55706—Continued.

55680. *ERYTHRINA ARBORESCENS* Roxb. Fabaceæ.

When covered with its bright-scarlet flowers this small tree is very attractive and is often planted as an ornamental, as in the streets of Darjiling. There are but few prickles on its branches, and the thin greenish leaves are often a foot in width. The strongly curved pods are about an inch wide and 6 to 9 inches long. The tree is found native in the central and eastern Himalayas at altitudes ranging up to 7,000 feet. (Adapted from *Hooker, Flora of British India*, vol. 12, p. 190, and *Gamble, Manual of Indian Timbers*, p. 122.)

For previous introduction, see S. P. I. No. 47680.

55681. *HYDRANGEA ROBUSTA* Hook. f. and Thoms. Hydrangeaceæ.

A very stout, nearly erect hydrangea from Sikkim, India. The short-stemmed oval leaves are coarsely toothed and the flowers, with white sepals, blue petals, and stamens, are borne in rather loose, spreading corymbs with red pedicels. (Adapted from *Curtis's Botanical Magazine*, pl. 5038.)

For previous introduction, see S. P. I. No. 50367.

55682. *ILEX INSIGNIS* Hook. f. Aquifoliaceæ.

Holly.

An attractive holly from the Sikkim Himalayas, where it grows at an altitude of 7,000 feet. It forms a small tree or shrub with thick-grooved branches which are purplish when young. The leathery dark-green leaves are pinnately lobed, with the lobes spine tipped and alternately raised and depressed, so that there appears to be a double row of spiny lobes on each side. This holly has proved hardy in Ireland. (Adapted from *Gardeners' Chronicle*, 2d ser., vol. 14, p. 292.)

For previous introduction, see S. P. I. No. 47698.

55683. *INDIGOFERA DOSUA TOMENTOSA* Baker. Fabaceæ.

Indigo.

A low shrubby plant with densely hairy branches and dull-green compound leaves 6 to 9 inches in length, each leaf consisting of 40 to 50 leaflets: the bright-red flowers are borne in long racemes. This attractive species is found in temperate regions of the Himalayas at altitudes of 1,000 to 5,000 feet. (Adapted from *Hooker, Flora of British India*, vol. 2, p. 152.)

For previous introduction, see S. P. I. No. 50369.

55684. *JASMINUM DISPERMUM* Wall. Oleaceæ.

Jasmine.

A climbing shrub common in temperate regions of the Himalayas at altitudes of 2,000 to 8,000 feet. It bears very numerous white flowers in axillary cymes and terminal panicles, sometimes a hundred. (Adapted from *Hooker, Flora of British India*, vol. 3, p. 602.)

55685. *LAUROCERASUS ACUMINATA* (Wall.) Roemer. Amygdalaceæ.

(Prunus acuminata Hook. f.)

Laurel cherry.

A slender-branched tree 30 to 40 feet in height, with flat narrow leaves up to 7 inches long and many-flowered racemes of yellowish white flowers. The fruit is a small oval drupe. The tree is found in the central and eastern Himalayas at altitudes ranging from 5,000 to 7,000 feet. (Adapted from *Hooker, Flora of British India*, vol. 2, p. 317.)

For previous introduction, see S. P. I. No. 47705.

55686. *LEYCESTERIA BELLIANA* W. W. Smith. Caprifoliaceæ.

A small graceful shrub with opposite, membranous, lance-shaped leaves, and sessile, two to four flowered spikes of rosy white flowers. It is native in the Sikkim Himalayas, near the Nepal border, at an altitude of 10,000 feet; it should prove hardy in England. (Adapted from *Transactions and Proceedings of the Botanical Society of Edinburgh*, vol. 24, p. 173.)

55669 to 55706—Continued.

55687. *LIGUSTRUM CONFUSUM* Decaisne. Oleaceæ.

This relative of our common privet is a small tree, sometimes 40 feet in height, and is native to the mountains of northeastern India at altitudes of 3,000 to 5,000 feet. The narrow leathery leaves are sometimes as much as 3½ inches long, and the small white flowers are borne in dense panicles. (Adapted from *Hooker, Flora of British India*, vol. 3, p. 616.)

For previous introduction, see S. P. I. No. 49640.

55688. *MAGNOLIA CAMPBELLII* Hook. f. and Thoms. Magnoliaceæ.

A beautiful deciduous magnolia from the Himalayas, where it ascends to 8,000 feet altitude. It reaches a height of 80 feet, has very dark bark, large elliptical dark-green leaves, and white to purple flowers 10 inches in diameter. This magnolia has flowered freely in southern France and Italy. (Adapted from *Curtis's Botanical Magazine*, pl. 6793.)

For previous introduction, see S. P. I. Nos. 47714 to 47718.

55689 to 55691. *MICHELIA* spp. Magnoliaceæ.55689. *MICHELIA CATHCARTII* Hook. f. and Thoms.

A lofty tree with magnolialike foliage and terminal white flowers about an inch in diameter. It is native in the temperate forests of the Sikkim Himalayas, where the moderately hard, dark-brown heartwood is used for planking and for making tea boxes. (Adapted from *Gamble, Manual of Indian Timbers*, p. 6, and *Hooker, Flora of British India*, vol. 1, p. 42.)

For previous introduction, see S. P. I. No. 47730.

55690. *MICHELIA EXCELSA* Blume.

In the temperate regions of the Himalayas, where this tree is native, it is known as the "white magnolia" and is the principal timber tree of the Darjiling Hills. The oblong leaves have silky brown lower surfaces, and the solitary white flowers are 4 or 5 inches in diameter. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 5, p. 243, and *Hooker, Flora of British India*, vol. 1, p. 43.)

For previous introduction, see S. P. I. No. 49642.

For an illustration of the flowers of this tree, see Plate III.

55691. *MICHELIA LANUGINOSA* Wall.

A tall tree with narrow leaves having white, woolly lower surfaces and solitary white flowers 3 to 4 inches across. Although it is spring flowering in most places in northeastern India, where it is native, in Sikkim it is said to form a large bush which flowers in autumn. (Adapted from *Hooker, Flora of British India*, vol. 1, p. 43.)

For previous introduction, see S. P. I. No. 46089.

55692. *MORUS LAEVIGATA* Wall. Moraceæ. Mulberry.

An India mulberry which occurs wild and cultivated, though not common, in the lower Himalayas, where it forms a medium-sized tree with oval leaves up to 7 inches in length. In early spring appear the long-cylindrical, yellowish white or pale-purple fruits; these are edible, although of a rather insipid sweet flavor. (Adapted from *Atkinson, Notes on the Economic Products of the Northwestern Provinces*, pt. 5, p. 83.)

55693. *PASPALUM CONJUGATUM* Berg. Poaceæ. Grass.

A creeping perennial grass with the flowering branches sometimes as much as 3 feet tall. Originally from Dutch Guiana, this species is found in moist places in the Tropics of both hemispheres and forms extensive and close mats. (Adapted from *Contributions from the National Herbarium*, vol. 18, p. 318.)

For previous introduction, see S. P. I. No. 51189.

55669 to 55706—Continued.

55694. *PICEA SMITHIANA* (Wall.) Boiss. Pinaceæ. Spruce.
(*P. morinda* Link.)

The Himalayan spruce is a lofty tree found in the mountains of northwestern India at altitudes of 7,000 to 11,000 feet; the terminal, drooping pale-green cones are 4 to 6 inches long. The stiff, sharp, spirally arranged green leaves are crowded into hanging, taillike twigs when young. The wood is extensively used for rough furniture and planking. (Adapted from Watt, *Dictionary of the Economic Products of India*, vol. 1, p. 4.)

For previous introduction, see S. P. I. No. 47754.

55695. *PIERIS FORMOSA* (Wall.) D. Don. Ericaceæ.

A beautiful evergreen Himalayan shrub with leathery finely toothed leaves and large terminal branching clusters of porcelain-white flowers. It has proved hardy in Cornwall, England. (Adapted from *Gardeners' Chronicle*, ser. 2, vol. 25, p. 568.)

55696. *PRUNUS NAPAULENSIS* (Seringe) Steud. Amygdalaceæ.

A small tree with narrow acuminate leaves, 4 to 6 inches long, and axillary racemes of white flowers. The drupes are about twice the size of a large pea and acid in flavor. This tree is a native of the temperate Himalayas at altitudes of 4,000 to 10,000 feet. (Adapted from *Flora and Sylva*, vol. 3, p. 34.)

For previous introduction, see S. P. I. No. 47767.

- 55697 to 55701. *RHODODENDRON* spp., Ericaceæ.

55697. *RHODODENDRON ARBOREUM* J. E. Smith.

This Himalayan rhododendron is variable both in its foliage and in the color of its flowers. In one form the leaves are silvery on the lower surface, while in another they are covered with a brownish red down. The bell-shaped flowers, borne in dense trusses, vary from deep crimson to pure white. The tree sometimes reaches a height of 35 feet, with a trunk 4 feet in circumference. (Adapted from *Flora and Sylva*, vol. 3, p. 34.)

For previous introduction, see S. P. I. No. 47771.

55698. *RHODODENDRON CILIATUM* Hook. f.

A Himalayan rhododendron, of somewhat dwarfed habit, bearing many small loose trusses of pinkish white flowers less than 3 inches wide. It rarely exceeds 6 feet in height. (Adapted from *Flora and Sylva*, vol. 3, p. 35.)

For previous introduction, see S. P. I. No. 47772.

55699. *RHODODENDRON DALHOUSIAE* Hook. f.

This is said to be the finest rhododendron from northeastern India, chiefly because of the great size and beauty of the fragrant flowers, which resemble those of a large lily. It is a straggling shrub, 6 to 8 feet high, with smooth dark-green leaves. The flowers, which occur in terminal clusters of three to five, are nearly 5 inches across. (Adapted from *Curtis's Botanical Magazine*, pl. 4713.)

For previous introduction, see S. P. I. No. 47773.

55700. *RHODODENDRON FALCONERI* Hook. f.

This shrub or tree, which sometimes attains a height of 30 feet, is a native of northeastern India. The large deep-green leaves, sometimes a foot long, and the whitish, densely clustered flowers make it a very fine ornamental. (Adapted from *Curtis's Botanical Magazine*, pl. 4924.)

For previous introduction, see S. P. I. No. 47774.

55669 to 55706—Continued.

55701. RHODODENDRON MADDENI Hook. f.

An ornamental Himalayan shrub 6 to 8 feet high. The dark-green leaves are from 4 to 7 inches long, with deep-red petioles. The large, delicate, fragrant flowers, white tinged with rose, are borne in threes at the ends of the branches. (Adapted from *Curtis's Botanical Magazine*, pl. 4805.)

For previous introduction, see S. P. I. No. 47776.

55702 and 55703. SAURAUJA spp. Dilleniaceæ.

55702. SAURAUJA FASCICULATA Wall.

A bush or small tree about 20 feet in height, native to the eastern subtropical regions of the Himalayas at altitudes of 2,000 to 4,000 feet. The long narrow leaves are quite hairy, especially beneath, and the flowers, which are first white, then pink, are borne in red-branched cymes. (Adapted from *Hooker, Flora of British India*, vol. 1, p. 287.)

55703. SAURAUJA NAPAULENSIS DC.

A moderate-sized tree with the youngest branches, leaf stems, and midribs covered with rough brown hairs; the narrow, strongly toothed leaves are up to 15 inches in length, the pink flowers are borne in many-flowered panicles, and the edible green fruits have a sweet mealy pulp. The tree is native in the temperate Himalayas at altitudes of 5,000 to 7,000 feet. (Adapted from *Hooker, Flora of British India*, vol. 1, p. 286.)

For previous introduction, see S. P. I. No. 47784.

55704. SKIMMIA LAUREOLA (DC.) Sieb. and Zucc. Rutaceæ.

An evergreen, strongly aromatic shrub, found throughout the temperate Himalayas at altitudes ranging from 6,000 to 10,000 feet. The white flowers are crowded into terminal panicles, and the red, fleshy, oval fruits are about three-fourths of an inch in length. The timber is used to make hoe and ax handles. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 6, pt. 3, p. 244, and *Hooker, Flora of British India*, vol. 1, p. 499.)

For previous introduction, see S. P. I. No. 47795.

55705. SPIRÆA MICRANTHA Hook. f. Rosaceæ.

A very attractive shrub of rather lax habit, found in the eastern temperate Himalayas at altitudes of 5,800 to 10,000 feet. The narrowly ovate doubly toothed leaves are sometimes 7 inches long, and the small pale-pink flowers are borne in very long spreading panicles. (Adapted from *Hooker, Flora of British India*, vol. 2, p. 325.)

For previous introduction, see S. P. I. No. 47802.

55706. TRACHYCARPUS MARTIANUS (Wall.) Wendl. Phœnicaceæ. Palm.

A slender-trunked fan-leaved palm from temperate regions of the Himalayas, where it grows to a height of 20 to 50 feet. The unarméd trunk bears at its summit a crown of rigid leathery roundish leaves 4 or 5 feet in diameter which are cut about halfway down into narrow 2-lobed segments. The yellow flowers, followed by blue fruits, are borne on a nodding spadix about a foot in length. (Adapted from *Hooker, Flora of British India*, vol. 6, p. 436.)

For previous introduction, see S. P. I. No. 53471.

55707. TRIFOLIUM SUBTERRANEUM L. Fabaceæ.

Subterranean clover.

From Melbourne, Victoria. Seeds purchased from F. H. Brunning & Co. Received August 18, 1922.

"Experiments carried on by the United States Department of Agriculture and by State experiment stations in cooperation with this department during the years 1921 and 1922 have established the fact that this clover will survive the winter as far north as Knoxville, Tenn. At this station, as well as several others, the plants from fall seeding made some growth in the fall, held their own during the winter, and made a rapid and heavy growth early in the spring of 1922. This clover made a strong growth on sandy land at McNeill, Miss.; in this case finely ground bone meal had been used as fertilizer. Preliminary trials have been encouraging, and the department is making further tests." (A. J. Pieters.)

For previous introduction, see S. P. I. No. 51212.

55708. *PTEROCARPUS* sp. Fabaceæ.

From Buenos Aires, Argentina. Seeds presented by D. S. Bullock, agricultural commissioner, Bureau of Agricultural Economics, United States Department of Agriculture. Received August 17, 1922.

"(From Cierras de Vilgo, Independencia, Province of La Rioja, Argentina.) Indian name *chica*, which means 'chew forever' or 'chew always.' The seeds are eaten toasted by the Indians." (Bullock.)

55709. *ANNONA DIVERSIFOLIA* Safford. Annonaceæ. Ilama.

From Tapachula, Chiapas, Mexico. Seeds purchased through R. O. Stevenson. British vice consulate. Received August 19, 1922.

"The ilama may be termed the cherimoya of the lowlands. The cherimoya does not succeed in the Tropics unless grown at elevations of 4,000 to 6,000 feet, where the climate is cool. The ilama, on the other hand, belongs to the lowlands, but is strikingly similar in character to a good cherimoya. It is a valuable recruit and one which can not be too strongly recommended for cultivation throughout the Tropics." (Wilson Popenoe.)

For previous introduction, see S. P. I. No. 51404.

55710. *LOTUS ULIGINOSUS* Schkuhr. Fabaceæ.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received August 19, 1922.

A pasture plant of considerable agricultural importance, rather extensively used in New Zealand, from 10 to 15 tons of seed being sown annually. This plant prefers a wet or swampy habitat. It sold in December, 1918, at about a dollar per pound. It is saved for seed mainly in the Auckland Province, but prior to the war the greater portion was imported, mainly from Germany. This seed was exported from the latter country under the name of *Lotus villosus* or *L. uliginosus*, which are the European trade names for the *L. major* of the New Zealand seed trade. *L. major* is very variable with regard to certain characters, such as hairiness, and in consequence several botanical names have been given to the plant. There are apparently a good many different strains, but whether these breed true from seed and are good agricultural species or whether they are due either to the habitat in which they are growing or to fertilization has not yet been ascertained. (Adapted from *The New Zealand Journal of Agriculture*, vol. 17, p. 347.)

Received as *L. villosus*, which is now referred to *L. uliginosus*.

For previous introduction, see S. P. I. No. 48635.

55711. *PRINSEPIA SINENSIS* Oliver. Amygdalaceæ.

From Jamaica Plain, Mass. Seeds presented by Dr. C. S. Sargent, Arnold Arboretum. Received August 25, 1922.

"*Prinsepia sinensis* is a species which has been comparatively unknown to horticulturists until recent times. It is quite distinct from the Himalayan *P. utilis*, which yields a cooking oil common in India, but is closely similar to *P. uniflora*, which has been introduced by this office several times. Like *P. uniflora* it is a Chinese ornamental shrub with gray or whitish bark and small gray spines. But while *P. uniflora* has white flowers, dark-purple fruits, and thick linear-lanceolate leaves, *P. sinensis* is distinguished by yellow

flowers, deep-red fruits, and thin ovate-lanceolate leaves. The shrub is said to be somewhat hardier than *P. uniflora*. The plant is of striking habit, and the clusters of large bright-yellow flowers must make it a brilliant sight on its native Mongolian hills from Mukden to the Yaboo. It is early blooming, but at the Arnold Arboretum it bears only a few fruits." (*D. C. Peattie.*)

55712. DIOSCOREA ALATA L. Dioscoreaceæ. Greater yam.

From Bridgetown, Barbados, British West Indies. Tubers presented by John R. Bovell, Director of Agriculture. Received July 7, 1922.

"*Barbados Red.* The tuber has a purple inner skin, with white flesh usually tinged or mottled with purple. The vine is four angled, with rather prominent maroon wings. The leaves are opposite, broadly ovate, cordate, acuminate; veins maroon; sinus deep and narrow; petioles maroon at base and apex. In the cooked yam the purple color is pale, and the flesh is mealy and of good flavor. The tubers often weigh several pounds each and are usually somewhat cylindrical. This is a standard variety in the West Indies and should be a good market yam for this country." (*R. A. Young.*)

55713. PHYLLOSTACHYS sp. Poaceæ. Bamboo.

From Tangsi, Chekiang, China. Plants collected in 1907 by the late Frank N. Meyer, Agricultural Explorer of the United States Department of Agriculture. Received June, 1908. Now numbered for convenience in distribution.

"A small-growing variety not over 10 feet in height, forming dense clumps. The small wiry stems make excellent plant stakes and small fishing rods. It is quite hardy, withstanding freezing temperatures." (*Peter Bisset.*)

Originally introduced under S. P. I. No. 23233 (Meyer's No. 301), but as it does not agree at all with Meyer's note it is necessary to renumber it.

55714. HORDEUM VULGARE PALLIDUM Seringe. Poaceæ. Barley.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received July 8, 1922.

"*Trabut.* A very hardy variety selected from the barleys of North Africa." (*Trabut.*)

55715 to 55717.

From Jamaica Plain, Mass. Presented by Dr. C. S. Sargent, Arnold Arboretum. Received July 5, 1922.

Seeds of the following varieties of the Japanese flowering cherry (*Prunus serrulata* Lindl.) are to be grown for trial as stocks for edible-fruited cherries.

55715. PRUNUS SERRULATA PUBESCENS Wilson. Amygdalaceæ.

A tree up to 55 feet in height, with a trunk sometimes 7 feet in circumference and leaves with pale-green lower surfaces. The white or pink single flowers are usually about four-fifths of an inch in diameter. This variety, known as *Kasumi sakura*, has the widest distribution of any of the Japanese cherries and flowers about two weeks later than *Prunus serrulata spontanea*, from which variety it differs chiefly in the slight hairiness of the leaves. (Adapted from *Wilson, Cherries of Japan*, p. 31.)

For previous introduction, see S. P. I. No. 45709.

55716. PRUNUS SERRULATA SACHALINENSIS (Schmidt) Makino. Amygdalaceæ. Sargent's cherry.

This variety, the *Yama sakura* of northern Japan, is very similar to *Prunus serrulata pubescens*, except that the leaves are not hairy, and the flowers, which are pink or rose colored, rarely white, are usually a little more than an inch in diameter. It is the handsomest of all the wild cherries of eastern Asia and is the parent of several of the finest double-flowered Japanese cherries. (Adapted from *Wilson, Cherries of Japan*, p. 35.)

For previous introduction, see S. P. I. No. 46533.

55715 to 55717—Continued.

55717. *PRUNUS SERRULATA SPONTANEA* (Maxim.) Wilson. Amygdalaceae.

In Japan this variety is a common wild tree in the woods and thickets from Kagoshima in the south to the Nikko region in the north, where it forms a tree over 75 feet in height with a trunk 15 feet in circumference. In habit and color of flowers this variety agrees closely with the northern *Prunus serrulata sachalinensis*; the flowers are white or pink and a little less than an inch in diameter. It is the *Yama sakura* of southern and central Japan. (Adapted from Wilson, *Cherries of Japan*, p. 28.)

For previous introduction, see S. P. I. No. 41577.

55718 to 55721.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received July 3, 1922. Quoted notes by Mr. Rock.

55718. *BERBERIS DICTYOPHYLLA* Franch. Berberidaceae. **Barberry.**

"(No. 3388. May 15, 1922.) A fine yellow-flowered, somewhat spiny shrub which grows on limestone soil in the Likiang Mountains at an altitude of 12,000 feet. The fruits are a brilliant red, and the shrub would make an excellent ornamental."

For previous introduction, see S. P. I. No. 49056.

55719. *PRINSEPIA UTILIS* Royle. Amygdalaceae.

"(No. 3281. Lashihpa. May 10, 1922.) A spiny shrub of great ornamental value, which grows north of Talifu on limestone soil at altitudes of 8,000 to 10,000 feet. In December and January the pendent branches bear a great profusion of white flowers. A cooking oil is expressed from the seeds, which are gathered by the Chinese and native tribes."

For previous introduction, see S. P. I. No. 42623.

55720. *PRUNUS* sp. Amygdalaceae. **Cherry.**

"(No. 3256. May 9, 1922.) A wild cherry which forms a large spreading tree 50 feet high with a trunk up to 2 feet in diameter; it grows at 8,500 feet altitude in forests beyond Chinho. It should be a fine tree for stock purposes; it bears large numbers of small yellow fruits."

55721. *ROSA* sp. Rosaceae. **Rose.**

"(No. 3238. Lashihpa. May 10, 1922.) A fine climbing rose which grows in great profusion at 8,000 feet altitude near Likiang. It is a prolific bloomer, bearing large corymbs of flowers which are at first yellow, but become white when fully opened."

For an illustration of this rose, see Plate IV.

55722. *TRIFOLIUM PRATENSE* L. Fabaceae. **Red clover.**

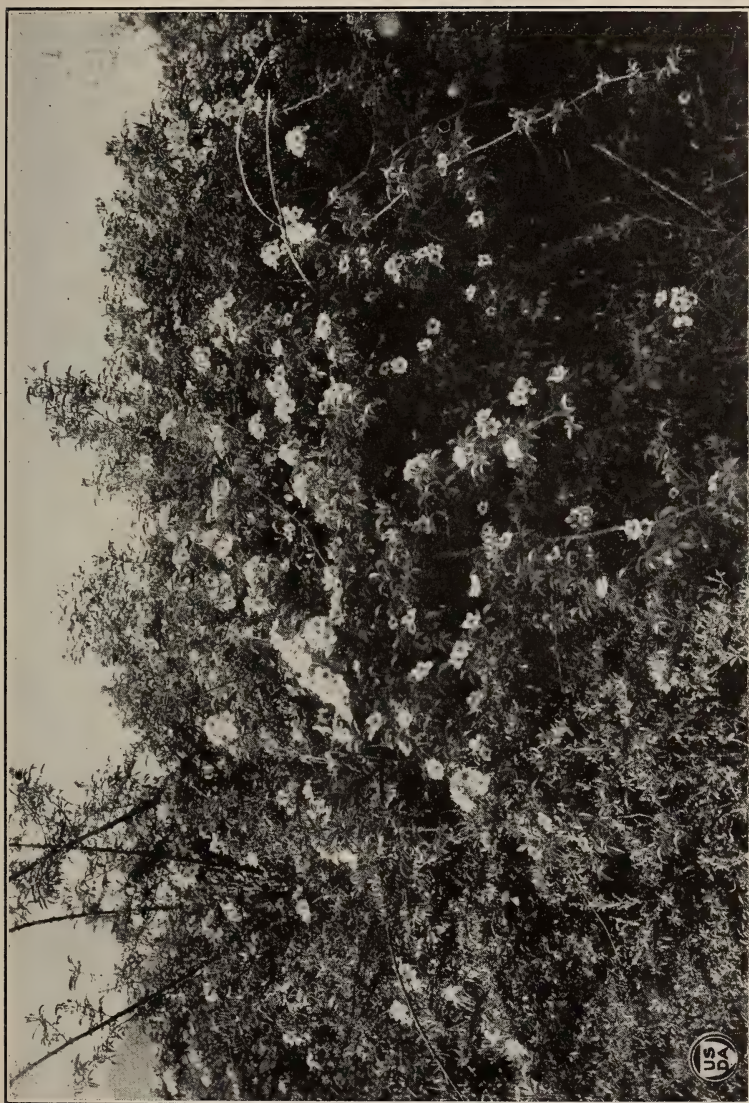
From London, England. Seeds presented by Walter S. Tower, American commercial attaché, London, through the Bureau of Foreign and Domestic Commerce, United States Department of Commerce. Received July 3, 1922.

Introduced for department agrostologists.

55723. *MAGNOLIA CAMPBELLI* Hook. f. and Thoms. Magnoliaceae.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received July 3, 1922.

A beautiful deciduous magnolia from the Himalayas, where it ascends to 8,000 feet above sea level. It reaches a height of 80 feet, has very dark bark,



A NEW WILD ROSE FROM SOUTHWESTERN CHINA. (*Rosa* sp.; S. P. I. No. 55721.)

This beautiful climbing rose was discovered by J. F. Rock on a high plateau in the cooler portion of the Himalayas in southwestern China at 8,000 feet altitude. The flowers, at first yellow, but later becoming a delicate creamy white, are single and are borne in large clusters. (Photographed by J. F. Rock on the Lashupa Plain, Yunnan, China, May 11, 1922, F30247FS.)



A NEW HYBRID PEAR. (PYRUS SEROTINA \times COMMUNIS: S. P. I. No. 55835.)

The Van Fleet pear, a hybrid produced by the late Dr. Walter Van Fleet at Little Silver, N. J., merits the serious attention of fruit growers because the tree appears to be resistant to fire-blight and at the same time the fruit is excellent for cooking and preserving. The pear is medium to large, with golden-yellow skin and sweet whitish flesh. The tree is vigorous, with large, thick, glossy leaves. No trace of blight has appeared in the two original trees which have been growing for 10 years at the Plant Introduction Garden, Chico, Calif. (Photographed by E. L. Crandall, September 12, 1922; P27943FS.)

large elliptical dark-green leaves, and white to purple flowers 10 inches in diameter. This magnolia has flowered freely in southern France and Italy. (Adapted from *Curtis's Botanical Magazine*, vol. 111, pl. 6793.)

For previous introduction, see S. P. I. No. 47718.

55724. MEDICAGO SATIVA L. Fabaceæ.

Alfalfa.

From Lima, Peru. Seeds presented by W. E. Dunn, acting commercial attaché, through the Department of Commerce, Washington, D. C. Received July 3, 1922.

"This Peruvian alfalfa is known as 'San Pedrana.' Sr. Carlos Alvarez Calderón, who obtained the sample for us, says that it was grown in the coast region and may be harvested every 45 days throughout the year, whereas from the ordinary variety 'del país' only about six cuts per year can be obtained." (Dunn.)

Peruvian alfalfa has proved of great value in certain parts of the United States. In the hope of originating new strains which may be superior in certain respects to any now grown in this country, an effort is being made to obtain seed from as many different regions in Peru as possible. The following note is adapted from H. L. Westover, in "The Development of the Peruvian Alfalfa Industry in the United States," United States Department of Agriculture Circular 93:

As compared with common alfalfa, both types of Peruvian alfalfa are more upright, less branched, and have fewer and somewhat coarser stems and smaller crowns. In thick stands, these differences are hardly noticeable. Most of the Peruvian introductions are also characterized by rapid growth, quick recovery after cutting, and in sections having a mild climate ability to make growth in cool weather after ordinary alfalfas have ceased growing. Under such conditions the Peruvian alfalfas start growth earlier in the spring and continue later in the fall, thereby giving more cuttings each season. The principal objection advanced in times past to these alfalfas is their tendency to become somewhat woody when allowed to stand beyond the flowering stage, but this difficulty is easily obviated by earlier harvesting. Lack of hardness will always confine the successful production of the true and smooth Peruvian alfalfas to the southern and southwestern portions of the United States, where the climatic conditions are comparatively mild. They can not be grown to advantage where the winter temperature falls below 10° F. At the present time most of the Peruvian and smooth Peruvian alfalfa in the United States is found in Arizona and California. It has also been grown to a limited extent in New Mexico, Texas, and the coastal regions of the Southeastern States. The results seem to indicate that in much of this region the common alfalfa could be replaced very profitably by the Peruvian varieties.

55725. PRUNUS ARMENIACA L. Amygdalaceæ.

Apricot.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received July 3, 1922.

"A native apricot known as *louz*; the tree is very productive and the fruit excellent. This tree is cultivated at M'Sila, a subarid region." (Trabut.)

55726. FRAGARIA ROSEIFLORA Boulay. Rosaceæ.

Strawberry.

From Chenebourg, near Geneva, Switzerland. Seeds purchased from H. Correvon, Floraire Nursery. Received July 11, 1922.

Introduced for experiments in strawberry breeding.

This is very closely allied to *Fragaria vesca*, from which it is distinguished by its round, uniformly pink petals and its roundish depressed fruits. It is found wild on the slopes of the Vosges Mountains in Alsace. (Adapted from *Bulletin de la Société de France*, vol. 18, p. 92.)

55727. CERATONIA SILIQUA L. Cæsalpiniaceæ.

Carob.

From Bari, Italy. Budwood presented by Dr. E. Pantanelli, director, Agricultural Experiment Station. Received July 7, 1922.

"*Améle*. This is considered the best variety of carob cultivated in this province (Bari); it may be the kind with large sweet pods which has been reported to you from this region." (*Pantanelli*.)

55728. GARCINIA MANGOSTANA L. Clusiaceæ. Mangosteen.

From Peradeniya, Ceylon. Seeds purchased through H. F. McMillan, Botanic Garden, Peradeniya. Received August 31, 1922.

Introduced for the purpose of establishing the mangosteen in our tropical dependencies.

"This delicious fruit is about the size of a mandarin orange, round and slightly flattened at each end, with a thick, smooth, rich red-purple rind, which, when cut, exposes the white segments lying loose in the cups. The cut surface of the rind is a most delicate pink. The separate segments are whitish and covered with a delicate network of fibers. The texture of the pulp resembles that of the plum, and the flavor is indescribably delicious." (*David Fairchild*.)

For previous introduction, see S. P. I. No. 55496.

55729. PRUNUS ARMENIACA L. Amygdalaceæ. Apricot.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received August 26, 1922.

"(Nguluke, Likiang Valley. June 25, 1922.) The trees are 45 feet or more high and found in this region at altitudes of 8,000 to 9,200 feet. They are apparently free from disease and should make good stock plants. The small, sour, rich-red fruits are deliciously fragrant and are excellent for jam or for stewing." (*Rock*.)

55730. LILIUM sp. Liliaceæ. Lily.

From Likiang, Yunnan, China. Bulbs collected by J. F. Rock. Received August 30, 1922.

"(No. 4756. Nguluke, near Likiang. June 27, 1922.) This may be a variety of *Lilium sutchuenense*. The plant, which grows on the Likiang Range at an altitude of 11,000 feet, is about 4 feet tall, with linear-lanceolate leaves and large brightly colored reddish yellow flowers spotted with a rich purple." (*Rock*.)

55731. ORYZA SATIVA L. Poaceæ. Rice.

From Szemao, Yunnan, China. Seeds collected by J. F. Rock. Received August 30, 1922.

"(Szemao, Yunnan. March 11, 1922.) A bright-red rice of fine grade, called *tzu no mi* by the Chinese and sold in Szemao." (*Rock*.)

55732. PRUNUS MAJESTICA Koehne. Amygdalaceæ. Cherry.

From Talifu, Yunnan, China. Seeds collected by J. F. Rock. Received August 30, 1922.

"(No. 3174. Talifu, Yunnan. April 25, 1922.) A fine large tree, 60 to 70 feet in height, of *Prunus pseudo-cerasus* type, found in the foothills of Talifu at altitudes of 6,700 to 7,000 feet. The tree from which these seeds were collected had three trunks clothed with a smooth, shining, bronze-colored bark with horizontal bands speckled with white. Each trunk was over a foot in diameter, the branches were stout and erect, the foliage dark green, and the fruits small, oblong, reddish, and cherrylike in appearance." (*Rock*.)

55733. CARICA PAPAYA L. Papayaceæ. Papaya.

From Bangkok, Siam. Seeds presented by Lao Leng Hui, clerk, American Legation. Received September 1, 1922.

A mixed collection of papayas from Bangkok, Siam, for trial in southern Florida. The Siamese papayas are recommended by the Hon. W. P. Hunt,

former American Minister to Siam, as of unusually good quality and free from the objectionable odor which characterizes those of many other countries.

55734. PHLEUM PRATENSE L. Poaceæ.

Timothy.

From Budapest, Hungary. Presented by the Hungarian Seed Culture Co. Received August 29, 1922.

Locally grown seed introduced for timothy breeding experiments.

55735. MYRICA RUBRA Sieb. and Zucc. Myricaceæ.

Yang mae.

From Yokohama, Japan. Seeds purchased from the Yokohama Nursery Co. Received August 31, 1922.

"The beautiful dark-purple fruits are the size of crab apples and can be eaten out of hand or made into compotes and pies. There is great variation in the habit and productivity of the trees and also in the color, size, and taste of the fruits. The trees are evergreen and thrive best on well-drained rocky terraces. The localities that will best suit them in the United States will probably be the southern sections of the Gulf Coast States and the milder parts of California. Chinese name *yang mae*." (Frank N. Meyer.)

For previous introduction, see S. P. I. No. 53982.

55736. PERSEA AMERICANA Mill. Lauraceæ.

Avocado.

(*P. gratissima* Gaertn. f.)

From Laguna, Guatemala. Budwood collected by Wilson Popenoe, Agricultural Explorer of the United States Department of Agriculture. Received October, 1916. Numbered September, 1922.

This variety was not distributed along with others introduced from Guatemala in 1916-17, as no buds were saved at Washington, and only one was successfully established at Miami, where several budsticks of the original shipment were sent. For a year or more the variety was considered to be lost. When it came into bearing, less than two years after the original buds were top-worked on an old tree of the West Indian race at the Miami Plant Introduction Garden, the variety was seen to be sufficiently meritorious to justify a wider trial. In habit and character of growth it is excellent; the branches are strong, not drooping, and the growth vigorous. The fruits, which ripen at Miami in late winter and early spring, are slender pyriform, about 18 ounces in weight, dark green, with the surface somewhat rough; the skin is thick and woody and the flesh cream yellow, smooth, and free from fiber, of rich flavor and excellent quality. The seed is rather small and tight in the cavity.

The original note on this variety is as follows:

"(No. 41. Laguna, Guatemala. October 2, 1916.) Avocado No. 2. *Itzamna*. A fruit of good size, having a very small seed and flesh of good quality and ripening very early in the season. The tree does not seem to be a very heavy bearer, but it is in such condition that it is difficult to say what its behavior may be under more favorable culture.

"The parent tree is growing among coffee bushes in the finca of Don Miguel Soto, a few hundred yards from the northern shore of Lake Amatitlan, at an altitude of 3,900 feet. The soil is a heavy black loam, rich and moist. The tree is about 25 feet high, with a trunk 1 foot in diameter and a rather scanty top. The amount of fruit which it is ripening this year (1916) is not great, but the crop may be considered a fair one.

"Following is a description of the fruit:

"Form oblong-pyriform, not necked; size above medium, weight 14 to 16 ounces, length $5\frac{1}{4}$ inches, greatest breadth $3\frac{1}{4}$ inches; base rounded, with the stem insertion nearly central; stem moderately stout, 5 inches long; apex rounded; surface pebbled, light green to yellowish green, with fairly numerous yellowish dots; skin slightly less than one-sixteenth of an inch thick at base of fruit, more than one-sixteenth of an inch thick at apex, separating readily from the flesh, brittle, and granular in texture; flesh pale cream, greenish near the skin, firm, with very slight fiber markings toward the base of the fruit; flavor nutty; quality very good; seed very small, ovate-conic in form. $1\frac{1}{4}$ inches long, $1\frac{1}{2}$ inches thick, with both seed coats adhering closely and tight in the cavity.

"The fruit reaches maturity by the end of September at Lake Amatitlan and is then picked for market, but the quality would doubtless be much better if it were left on the tree some time longer. In excessively wet weather the fruits fall as soon as they are mature. With less soil moisture they hang on longer." (*Wilson Popenoe*.)

55737. *TABEBUIA PENTAPHYLLA* (L.) Hemsl. Bignoniaceæ.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received August 25, 1922.

This tree is native in the West Indies and Central America and is often cultivated as an ornamental.

"The *matiliscuate* is a handsome flowering tree found in north-central Guatemala, especially in the Valley of Salama, and commonly growing near small streams. I have seen it at altitudes of 2,000 to 3,500 feet. The tree is about 35 feet high at maturity, with a spreading crown, deciduous during the latter part of the dry season (January to March), and producing large clusters of pink flowers which make the tree a mass of color visible for some distance. Its flowering season is from January to March, and the seeds, which are produced in long slender pods, ripen in May and June.

"As an ornamental tree for cultivation in southern Florida and possibly also in California, the *matiliscuate* seems well worthy of trial. The only defect of this plant is the habit of dropping its leaves during the dry months of the year. If it flowers in the same months in Florida as in Guatemala, it should be a valuable addition to the flowering trees of that region. It thrives on heavy but rocky land and does not seem to require a large supply of water." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 44998.

55738. *PAULLINIA CUPANA* Kunth. Sapindaceæ. **Guarana.**

From Rio de Janeiro, Brazil. Seeds presented by Dr. J. Simão da Costa, through Dr. W. L. Schurz, commercial attaché of the American Embassy. Received September 6, 1922.

A stout, bushy vine found wild in Venezuela and northwestern Brazil and also cultivated in the latter country for the sake of the grapelike fruits, from which is obtained the product known as guarana. This, in the form of a black paste, has received considerable attention in the pharmaceutical world in recent years as a natural source of caffeine.

The following analysis shows the composition of guarana:

	Per cent.		Per cent.
Caffeine-----	5.388	Starch-----	9.350
Essential oil-----	2.950	Glucose-----	.777
Resin-----	7.800	Pectic acid, malic acid, dextrin,	
Coloring matter-----	1.570	etc-----	7.470
Saponin-----	.060	Vegetable fiber-----	49.125
Guarana-tannic acid-----	5.902	Water-----	7.650
Pyro-guarana acid-----	2.750		

Owing to the fact that guarana is so rich in caffeine, a small dose enables a man to endure extraordinary hardship, and taken sparingly it is said to be excellent for intestinal trouble.

The Maube district in Para, Brazil, produces about 25 tons of guarana paste annually, and the cultivation of the plant has recently been begun in the States of Goyaz and Rio de Janeiro. A number of new and successful pharmaceutical compounds contain this product. (Adapted from *Bulletin of the Pan American Union*, vol. 51, p. 268.)

55739 to 55747.

From Avondale, Auckland, New Zealand. Budwood and trees presented by H. R. Wright. Received September 13, 1922. Quoted notes by Mr. Wright.

55739 to 55747—Continued.

55739 to 55742. *AMYGDALUS PERSICA* L. Amygdalaceæ. **Peach.**
(*Prunus persica* Stokes.)

55739. "Dormant buds of *Kings Seedling*. A white-fleshed cling-stone variety, with the skin uniformly of a beautiful red."

55740. "Dormant buds of *Sunrise*. One of the earliest varieties, of high color and superb quality. The tree is sturdy, close jointed, and a good cropper."

55741. "Dormant buds of *Watts Early*. A variety that might be suitable for Florida because of its short resting period. It starts its growth nearly a month before any other variety; consequently should not be planted in districts subject to late frosts. The ripening season is extra early."

55742. "*White Cling*. Tree belonging to a variety found growing near a native hut in the Coromandel district. It is said to bear heavy crops of fine-flavored, very juicy fruits."

55743. *CITRUS SINENSIS* (L.) Osbeck. Rutaceæ. **Orange.**

"*Groverly Navel*. Trees of a Queensland variety with fruits of large size. This variety is an enormous cropper and well worth a trial."

55744. *MALUS SIEBOLDII* (Regel) Rehder. Malaceæ.

"Selected trees which are aphid resistant, but not suitable as stock plants, lacking affinity. They are essentially ornamentals, having very pretty foliage and being very handsome while in fruit."

55745 to 55747. *PRUNUS SALICINA* × *CERASIFERA*. Amygdalaceæ.
Hybrid plum.

55745. "Dormant buds of *Ford's Early* (?)."

55746. "Dormant buds of *Ford's Early*. A hybrid plum which is early ripening and a good cropper."

55747. "Dormant buds of *Norris Early*. Said to be a hybrid plum."

55748 to 55750.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received September 12, 1922.

55748. *INDIGOFERA DOSUA TOMENTOSA* Baker. Fabaceæ. **Indigo.**

For previous introduction and description, see S. P. I. No. 55683.

55749. *MIMOSA RUBICAILIS* Lam. Mimosaceæ.

A large, straggling, prickly shrub found throughout the greater part of India, ascending to 5,000 feet in the western Himalayas. The leaves, seeds, pods, and powdered roots are used by the natives medicinally. It is said to make a very satisfactory hedge plant. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 5, p. 249.)

For previous introduction, see S. P. I. No. 47734.

55750. *NICOTIANA SYLVESTRIS* Speg. Solanaceæ. **Tobacco.**

An ornamental tobacco from Argentina which has the double merit of large handsome leaves and a free-flowering habit. Its white sweet-scented flowers are very attractive, but should be shaded from the direct rays of the midday sun. (Adapted from *The Gardeners' Magazine*, vol. 52, p. 48.)

For previous introduction, see S. P. I. No. 42344.

55751 to 55753.

From Mili, Szechwan, China. Tubers and bulbs obtained by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received September 12, 1922.

55751 to 55753—Continued.

55751 and 55752. *LILIUM* spp. Liliaceæ.

Lily.

55751. *LILIUM* sp.

"(July, 1922.) A tall plant with purplish white flowers borne in twos or threes; collected in the mountains."

55752. *LILIUM* sp.

"(No. 5054. July 12, 1922.) A rather rare species with pink flowers speckled with purple, found in the mountains at an altitude of 12,000 feet."

55753. (Undetermined.)

"(No. 5053. July, 1922.) Tubers collected in the mountains."

55754. *HYPERICUM CANARIENSE* L. Hypericaceæ.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received September 15, 1922.

"A small graceful tree with drooping branches, which will grow on the driest and poorest of soils. The wood is the strongest I have ever seen: it is almost impossible to drive a nail into it. The boys here use its thin straight stems as net handles, all other kinds of wood breaking under the strain of pushing the net through the water. I should think that such remarkably strong wood which can be produced on such poor soil would have a practical value." (*Proschowsky*.)

For previous introduction, see S. P. I. No. 47581.

55755. *RUBUS* sp. Rosaceæ.

Blackberry.

From San Jose, Costa Rica. Seeds collected by Edward Goucher, Plant Propagator, Bureau of Plant Industry. Received September 14, 1922.

"The fruits of this species of *Rubus* were collected at Paraiso, near San Jose, Costa Rica. The plants grew along the roadside and were from 6 to 8 feet in height. The fruits, which were produced in abundance, were about 1 inch in length and very firm in texture, but of poor flavor." (*Goucher*.)

55756 to 55761.

From Yunnan, China. Collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received September 11, 1922. Quoted notes by Mr. Rock.

55756. *LILIUM* sp. Liliaceæ.

Lily.

"(No. 4931. Likiang. July 7, 1922.) Bulbs of a beautiful lily with thick, oval, alternate leaves which are far apart. The single terminal flower has rich pink reflexed petals spotted with dark purple. This rare plant grows on the edge of pine forests of the Likiang Snow Range at an altitude of 12,000 feet. This may be only a variety of *Lilium duchartrei*, but it is a decidedly handsome plant."

55757 to 55761. *PRUNUS* spp. Amygdalaceæ.

Seeds of the following wild cherries and plums:

55757. *PRUNUS* sp.

Cherry.

"(Likiang. July 6, 1922.) A smaller tree than the following [No. 4858, S. P. I. No. 55758]; the fruits also are smaller, globose, and dark red. It grows in the Likiang Snow Range at an altitude of 12,000 feet. The tree is apparently free from any disease."

55758. *PRUNUS* sp.

Cherry.

"(No. 4858. Likiang. July 6, 1922.) A fine looking cherry tree, 35 to 40 feet in height, which grows at an altitude of 12,000 feet among limestone boulders on the edge of alpine meadows on the

55756 to 55761—Continued.

Likiang Snow Range. The foliage is dark green, and the orange-red, oval-pointed, sour fruits are much sought after by birds and hence difficult to collect."

55759. *PRUNUS* sp.

Plum.

"(Szemao. July, 1922.) A plum tree of fine shape, 40 to 50 feet in height, growing in the mountains at an altitude of 5,000 feet or more. The small yellow fruits, about the size of an olive, are not very sour; the flesh is scanty but quite tasty."

55760. *PRUNUS* sp.

Plum.

"(Szemao. July, 1922.) A plum tree growing in the mountains at an altitude of 5,000 feet."

55761. *PRUNUS* sp.

Plum.

"(Szemao. July, 1922.) A plum tree, 30 to 35 feet in height, growing in the mountains at an altitude of 5,000 feet or more. The fruit, somewhat larger than an olive, is yellow, hard, and sour. Owing to its freedom from disease and prolific bearing, this species, as well as the two preceding ones, should be suitable for stocks."

55762. *GARCINIA MANGOSTANA* L. Clusiaceæ.

Mangosteen.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received September 6, 1922.

For previous introduction and description, see S. P. I. No. 55728.

55763. *ACANTHOSICYOS HORRIDA* Welw. Cucurbitaceæ.

From Louws Creek, Eastern Transvaal, Union of South Africa. Seeds presented by E. B. Edwards. Received September 14, 1922.

"*Narras*. A remarkable cucurbitaceous plant which grows on the dunes of the Namib, where subterranean waters exist. The plant subsists even when this water is at great depths. It forms thorny thickets on the sand hills of Southwest Africa and is adapted to a hot, dry climate, with little or no rainfall. The fruit is the size of an ostrich egg. Both the pulp and seeds are used as food by the natives. The fruits are produced in abundance, and for about four months of the year the more primitive Hottentots are said to survive with practically no other source of food or water. The fruits are eaten and water is obtained from them. The seeds when ripe are plump, about the size of watermelon seeds.

"The plant is one which should be of great value to our Indians of the Southwest if once established on the sand dunes of Arizona and southern California. It is doubtful whether any plant can be obtained which seems offhand to give greater promise in that region than does this cucurbit." (*H. L. Shantz*.)

For previous introduction, see S. P. I. No. 55486.

55764 and 55765. *PRUNUS SEROTINA* Ehrh. Amygdalaceæ.

Capulin.

From the city of Guatemala, Guatemala. Seeds presented by Sr. Jorge Garcia Salas, Director General of Agriculture. Received August 17, 1922.

"In Guatemala this tree is found throughout the highlands generally, sometimes as a semicultivated plant, sometimes as a wild species, or at least having the appearance of one. Its zone of cultivation lies between 4,000 and 9,000 feet. The Kiche Indians who live near Quezaltenango know the fruit as 'tup' and distinguish two varieties—the 'ek-i-tup' (red tup) and the 'sak-i-tup' (white tup), the latter having fruits of much lighter color than the former. The presence of a name for this fruit in the Kiche language argues an ancient cultivation in the Guatemalan highlands.

"The capulin is used in the same manner as the northern cherry—for eating out of hand, for preserving, for jams, etc. In those countries where good varieties grow it is popular among all classes of people.

"There is considerable difference in flavor of the fruits from different trees of a given region where this species grows, some of the fruits being disagreeably bitter, while others are sweet, pleasant, and altogether delicious. It is these latter which must be sought out and propagated if the possibilities of the capulin are to be fully realized and if it is to become eventually, as we confidently believe it will, a popular fruit throughout the subtropical regions of the entire world." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 41328.

55764. "A bitter cherry from cool regions of Chimaltenango." (*Garcia Salas*.)

55765. "A sweet cherry from cool regions of San Martin Jilotepeque." (*Garcia Salas*.)

55766 to 55768. *CUCUMIS* spp. Cucurbitaceæ.

From Burringbar, New South Wales. Seeds presented by B. Harrison. Received September 14, 1922. Quoted notes by Mr. Harrison.

55766. *CUCUMIS MELO* L.

Muskmelon.

"Seeds of the Australian casaba which I believe originally came from India. It is a most prolific plant, bearing cream-colored fruit about the size of a cucumber. It is sometimes called the 'apple melon' and is quite popular here, being very palatable when eaten with sugar or made up into pies. It is hardy, prolific, early, and should thrive well throughout the United States."

For previous introduction, see S. P. I. No. 46029.

55767 and 55768. *CUCUMIS SATIVUS* L.

Cucumber.

55767. "*Mammoth*. This cucumber grows to a very large size, almost as large as a medium-sized vegetable marrow, and keeps well. The flesh is very firm, crisp, and sweet."

For previous introduction, see S. P. I. No. 48156.

55768. "*Harrison's Giant*. Grows to a length of 3 feet and is well flavored. This variety has been evolved through careful selection and cultivation."

55769. *CARAGANA PYGMAEA* (L.) DC. Fabaceæ. Dwarf pea tree.

From Indian Head, Saskatchewan, Canada. Seeds presented by Norman M. Ross, Forestry Branch, Nursery Station, Indian Head. Received September 15, 1922.

A handsome shrub with small leaves and yellow flowers, which grows spontaneously in hilly places in the southern provinces of Russia, and in great abundance in the region south of Lake Baikal. In cultivation it rarely exceeds 4 feet, but in its wild state it is often 6 feet high with a stem 2 inches thick. The bright-yellow shoots when old are long and flexible and are made into flyflaps. The shoots are much tougher than those of any of our cultivated osiers and are better suited for tying. The hard dull-brown wood is streaked with red and is well adapted for veneering. (Adapted from *Edward's Botanical Register*, vol. 12, p. 1021.)

For previous introduction, see S. P. I. No. 52698.

55770. *LILIUM* sp. Liliaceæ.

Lily.

From Mili, Szechwan, China. Bulbs collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received September 15, 1922.

"(No. 5051. Mili. July 10, 1922.) A lily related to *Lilium duchartrei*, with large racemes of white flowers: the petals are reflexed and sprinkled with purple. The bulbs were collected in southwestern Szechwan, in the mountains of the Lama Kingdom." (*Rock*.)

55771 to 55774.

From Komaba, Tokyo, Japan. Seeds presented by Prof. M. Shirai, Botanical Institute, College of Agriculture, Komaba. Received September 19, 1922.

55771 and 55772. *ELAEAGNUS MULTIFLORA* Thunb. Elæagnaceæ. Gumi.

A very attractive white-flowered Japanese shrub about 6 feet in height. The lower surface of the oval leaves is silvery white and the dull-red oval fruits, about an inch in length, are much relished for their brisk tart flavor, being excellent for preserves. (Adapted from *The Florists' Exchange*, vol. 38, p. 185.)

55771. *Ogumi.*55772. *Togumi.*55773 and 55774. *RUBUS* spp. Rosaceæ.

These native Japanese species of *Rubus* are introduced for breeding experiments.

55773. *RUBUS INCISUS* Thunb.

An erect shrubby species with purplish stems, few spines, heart-shaped leaves, and solitary axillary white flowers. (Adapted from *Thunberg, Flora Japonica*, p. 216.)

55774. *RUBUS MICROPHYLLUS* L. f.(*R. palmatus* Thunb.)

A much-branched shrub with slender climbing branches, scattered recurved prickles, roundish five or six lobed bright-green leaves, solitary axillary pure-white flowers, and yellow juicy fruits nearly an inch in diameter. (Adapted from *Curtis's Botanical Magazine*, pl. 7801.)

55775 to 55787.

From China. Collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received September 21, 1922. Quoted notes by Mr. Rock.

55775 and 55776. *AMYGDALUS PERSICA* L. Amygdalaceæ.

Peach.

(*Prunus persica* Stokes.)

55775. "(Near Puerhfu, Yunnan. July, 1922.) Seeds of a tree 40 feet in height, which is a prolific bearer. The fruits are unusually fine, although small; they are juicy and of a delicious strawberry-like flavor, freestone, and with a strawberry-red surface."

55776. "(Puerhfu, Yunnan. July 10, 1922.) Seeds from large trees growing wild in the mountains 30 li [about 8 miles] from Puerhfu at an altitude of 5,000 feet. The fruits are large, freestone, quite juicy, and of good flavor."

55777. *ARISAEMA* sp. Araceæ.

"(No. 5053. Mili, Szechwan. July 12, 1922.) Tubers of an aroid of great beauty collected in the mountains. The large spathe is white, with a tinge of pale green toward the apex."

55778 to 55780. *LILIUM* spp. Liliaceæ.

Lily.

55778. *LILIUM* sp.

"(Likiang, Yunnan. July, 1922.) Bulbs of a lily with red stems, dark-green leaves, and yellowish red flowers; the reflexed petals are spotted with purple. This lily was found on the western slope of the Likiang Snow Range at an altitude of 14,000 feet."

55779. *LILIUM* sp.

"(Likiang, Yunnan. July 20, 1922.) Bulbs of a small lily with single white flowers; found on the Likiang Snow Range at an altitude of 14,000 feet."

55775 and 55787—Continued.**55780. LILIUM sp.**

"(Likiang, Yunnan. July, 1922.) Bulbs of a lily with red stems and thick, fleshy, light-green leaves, collected on the eastern slope of the Likiang Snow Range at an altitude of 14,000 feet. The yellowish green flowers are marked with purple stripes."

55781 to 55784. PRUNUS spp. Amygdalaceæ.**55781. PRUNUS TOMENTOSA Thunb.****Bush cherry.**

"(Likiang, Yunnan. July 18, 1922.) Seeds of a shrubby cherry which grows on the Yunnan-Szechwan border about five days' journey north of Likiang in the scrub forests near Fengkow, not far from the Yangtze River, at an altitude of 11,000 feet. The plant is 8 to 10 feet high, with a gray pubescence, branching from the base and forming a large round bush. It is a most prolific bearer, and in the latter part of July is loaded with the oval orange-yellow cherries of a sweetish sour flavor."

55782. PRUNUS sp.**Cherry.**

"(No. 5052. Mili, Szechwan. July 10, 1922.) Seeds of a fine spreading tree 35 to 40 feet in height, collected in the mountains at an altitude of 12,000 feet. The small oval red fruits have very small seeds. The tree should make a good stock plant."

55783. PRUNUS sp.**Plum.**

"(Near Puerhfu, Yunnan. July, 1922.) Seeds of a fine tree which bears bright-yellow, very juicy fruits of a mild, sweet flavor, the size of a small apple. This species could doubtless be improved."

55784. PRUNUS sp.**Plum.**

"(Near Puerhfu, Yunnan. July, 1922.) Seeds of a tree 35 to 40 feet high, with bright-yellow, slightly bitter fruits the size of a small walnut."

55785 to 55787. RUBUS spp. Rosaceæ.**Raspberry.****55785. RUBUS sp.**

"(Likiang, Yunnan. July, 1922.) Seeds of a rambling shrub collected on the Likiang Snow Range at an altitude of 15,000 feet in exposed situations covered with snow in winter and early spring. The entire plant is woolly white and slightly spiny, and the leaves are snow white beneath. The fruits, the size of a thimble, have a sweet, delicious flavor, and the individual drupelets are large and transparent."

55786. RUBUS sp.

"(Likiang. July 20, 1922.) Seeds of a climbing shrub, with leaves silvery beneath and green above, growing on the Likiang Snow Range at an altitude of 13,000 feet. The orange-red berries have a sweet subacid flavor and attractive color."

55787. RUBUS sp.

"(Likiang. July 20, 1922.) Seeds of a shrub 5 to 6 feet high, collected on the slopes of the Likiang Snow Range at an altitude of 13,000 feet. The small leaves are green on both sides, and the scarlet berries are sweet and very palatable."

55788. RUBUS GLAUCUS Benth. Rosaceæ.**Andes berry.**

From Guatemala. Seeds presented by B. M. Young, Morgan City, La.
Received September 25, 1922.

"The Andes berry occurs as a wild plant from Mexico to Ecuador. It is a vigorous raspberry-like plant, bearing maroon-colored fruits which resemble Logan blackberries in flavor, but are sweeter. It can probably be culti-

vated on the Pacific coast and in the Gulf States. A full description of the plant, its cultivation, and uses may be found in the Journal of Heredity, vol. 12, pp. 387-393, November, 1921." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 52734.

55789. RHEUM RHAPONTICUM L. Polygonaceæ. Rhubarb.

From Ottawa, Canada. Crowns presented by Prof. T. F. Ritchie, Department of Horticulture, Central Experimental Farm. Received September 28, 1922.

"A new variety of rhubarb of very fine quality; it has a slender purplish stalk." (*W. A. Orton*.)

55790. CALLIANDRA TERGEMINA (L.) Benth. Mimosaceæ.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, Botanic Gardens, Dominica. Received September 22, 1922.

"Seeds of a small native tree known locally as *bois ravine*; it makes a good hedge plant and is very pleasing when in flower." (*Jones*.)

A beautiful leguminous shrub of the habit of the mimosas, but thornless, with compound leaves composed of six leaflets arranged characteristically in two groups of three each. The long purple filaments of the dense axillary flower heads make this shrub a very pleasing ornamental. (Adapted from *Plumier, Plantarum Americanarum, ed. Burmann, pl. 10*.)

55791. OSYRIS ALBA L. Santalaceæ.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received September 23, 1922.

"This is a small evergreen bush which is very ornamental when loaded with its red fruits. It grows in very dry poor soil." (*Proschowsky*.)

A small upright shrub 3 feet high, widely distributed throughout the Mediterranean region. It has stiff, narrow, yellowish green leaves, small axillary greenish yellow flowers, and small red fruits. The roots and fruit possess astringent properties. (Adapted from *Schneider, Illustriertes Handbuch der Laubholzkunde, vol. 1, p. 247*.)

55792 to 55795.

From Freetown, Sierra Leone, West Africa. Seeds presented by Prof. William N. Martin, Albert Academy, Freetown. Received September 25, 1922.

55792. CUCUMEROPSIS MANNII Naud. Cucurbitaceæ. Kiffy.

A cucurbitaceous yellow-flowered climbing vine from tropical Africa.

"The gourdlike fruits, about the size and shape of a goose egg, are produced on vines like that of the ordinary gourd. The seeds when parched and ground produce a delicious condiment, and kiffy seed is an important ingredient in the popular Liberian dish called dumboy. The flavor of the parched seed is similar to that of the parched seeds of *Sesamum indicum*, which are used in the same manner by the natives of Liberia. The seeds are obtained by macerating the fruits in water and washing them free from the pulp. This plant probably would mature its fruits only in the extreme southern United States." (*G. N. Collins*.)

For previous introduction, see S. P. I. No. 31365.

55793 and 55794. HOLCUS SORGHUM L. Poaceæ. Sorghum. (*Sorghum vulgare* Pers.)

55793. *Cush Cush*. Seeds yellow.

55794. *Cush Cush*. Seeds red.

55795. ORYZA SATIVA L. Poaceæ. Rice.

"Temne rice, the sweetest in Sierra Leone." (*Martin*.)

55796. GUILIELMA UTILIS Oerst. Phœnicaceæ. Pejibaye.
(*Bactris utilis* Benth. and Hook.)

From San Jose, Costa Rica. Plants purchased through Oton Jimenez. Received September 15, 1922.

A shipment of plants of the pejibaye. For an extended account of this interesting food palm, see the Journal of Heredity, vol. 12, pp. 154-166, April, 1921.

For previous introduction and description, see S. P. I. No. 54776.

55797 to 55804.

From Harbin, Manchuria. Seeds presented by G. C. Hanson, American consul, Harbin. Received September 25, 1922. Quoted notes by Mr. Hanson.

"The following collection of farm products grown in the Provinces of Heilungchiang and Kirin, Manchuria, was prepared for a world's farm exhibit to be held in Lagrange, Ind., in October, 1922. The seeds are all of the 1921-22 crop."

55797. CANNABIS SATIVA L. Moraceæ. Hemp.

"A variety of hemp grown at Anda."

For previous introduction, see S. P. I. No. 44712.

55798. FAGOPYRUM VULGARE Hill. Polygonaceæ. Buckwheat.
(*F. esculentum* Moench.)

"Buckwheat from Anda."

55799. HOLCUS SORGHUM L. Poaceæ. Sorghum.
(*Sorghum vulgare* Pers.)

"Kaoliang from Tzitzikar."

55800. LINUM USITATISSIMUM L. Linaceæ. Flax.

"Siberian linseed from the Ussurisk Railway district."

55801. PANICUM MILLACEUM L. Poaceæ. Proso.

"Red millet from Tzitzikar."

55802. SOJA MAX (L.) Piper. Fabaceæ. Soy bean.
(*Glycine hispida* Maxim.)

"North Manchurian soy beans; average quality from the River Sungari district."

55803. TRITICUM AESTIVUM L. Poaceæ. Common wheat.
(*T. vulgare* Vill.)

"Manchurian wheat; 124/125 Zolotnika natural weight; from Anda."

55804. ZEA MAYS L. Poaceæ. Corn.

"A yellow variety of maize from Anda."

55805. PYRUS SEROTINA × COMMUNIS. Malaceæ. Van Fleet pear.

Trees grown at the Plant Introduction Garden, Chico, Calif., under P. I. G. No. 6583. Numbered September, 1922.

"A hybrid pear raised by the late Dr. Walter Van Fleet at Little Silver, N. J., and presented to the Plant Introduction Garden in 1909. Promising as a blight-resistant cooking and preserving pear for sections where fire-blight is destructive.

"Origin, Little Silver, N. J. A hybrid probably between Golden Russet, an oriental pear, and one or more of the *communis* types. Medium to large, roundish, obovate; skin golden, covered with numerous small round dots; stalk long, stout; cavity around stalk quite shallow or none at all; basin at the calyx end more or less abrupt, deep, russet; flesh whitish, sweet, slightly subacid, granular; core medium; seeds few, large; not gritty.

"A handsome golden colored pear which when properly ripened makes a fine baking and preserving fruit. The trees are strong and vigorous with large,

thick, glossy leaves. The two original trees have been grown at Chico for more than 10 years and no trace of blight has appeared. J. E. Morrow, superintendent of the Chico garden, who has watched this pear carefully for a number of years, says that it is a splendid cooking pear and that after being cooked it tastes something like pineapple. He further says that, owing to its extreme vigor, size, hardness, immunity to blight, and heavy cropping qualities, he believes the pear has much promise. He regards it as much better than Kieffer or LeConte and is of the opinion that it should be thoroughly tested, especially in the Southern States." (B. T. Galloway.)

For an illustration of this fruit, see Plate V.

55806. PHEUM PRATENSE L. Poaceæ. Timothy.

From Sydney, New South Wales. Seeds presented by George Valder, Department of Agriculture. Received September 29, 1922.

Locally grown timothy introduced for comparison and cultural experiments.

For previous introduction, see S. P. I. No. 55480.

55807. GUILIELMA UTILIS Oerst. Phœnicaceæ. Pejibaye.
(*Bactris utilis* Benth. and Hook.)

From San Jose, Costa Rica. Seeds collected by Edward Goucher, Plant Propagator, Bureau of Plant Industry. Received September 19, 1922.

For previous introduction and description, see S. P. I. No. 55796.

55808 to 55811.

From Buitenzorg, Java. Seeds presented through Carl Hartley. Received September 23, 1922. Quoted notes by Mr. Hartley.

55808 to 55810. ARACHIS HYPOGAEA L. Fabaceæ. Peanut.

Presented by the Java Department of Agriculture.

"All of these peanuts mature in 100 days, or, according to the natives, in three months."

55808. "(No. 24 M.) *Broel*. This is a dominantly 3-seeded red-skinned peanut from East Java. It is moderately wilt resistant."

55809. "(No. 74.) *Paarse Holle*. This variety is named for its dark-red seed skin. It is mostly two seeded with some 3-seeded pods and is moderately wilt resistant."

55810. "(No. 71.) *Toebar*. This is grown by the Selectietuin here as their most productive strain. Unlike some of the kinds named 'Toebar' in other places, it has a white seed skin. Of the early-maturing strains, with one exception, it is the most resistant to the locally prevalent wilt, *Bacterium solanacearum*. It is of the bunch type, easily handled and harvested.

55811. CASTANOPSIS ARGENTEA (Blume) A. DC. Fagaceæ. Chestnut.

"(April, 1922.) An edible chestnut obtained from the head forester at Palembang, Sumatra."

An evergreen tree 50 to 60 feet high, with narrow, thin leaves 5 to 7 inches long, and very spiny dense clusters of burs; each bur is about 2 inches wide and contains normally a single nut an inch in diameter. (Adapted from *Hooker, Flora of British India*, vol. 5, p. 621.)

For previous introduction, see S. P. I. No. 52533.

55812. MANGIFERA ALTISSIMA Blanco. Anacardiaceæ.

From Manila, Philippine Islands. Budwood presented by Sr. Adn. Hernandez, director, Bureau of Agriculture. Received September 6, 1922.

A Philippine relative of the mango, which is found wild from northern Luzon to southern Mindanao, where it forms a large tree, sometimes reaching a height of 116 feet. The tree is not cultivated, although the mangolike, smooth, green or yellowish fruits, 2 to 3 inches long, are used for making pickles. The

leaves are long, narrow, and pointed at both ends, and the small, fragrant, white flowers are borne in large numbers in branched clusters. (Adapted from *W. H. Brown, Wild Food Plants of the Philippines, p. 94.*)

55813. AMYGDALUS PERSICA L. Amygdalaceæ.
(*Prunus persica* Stokes.)

Peach.

From the Plant Introduction Garden, Chico, Calif. A sucker from the stock plant on which was budded *Amygdalus tangutica*, S. P. I. No. 41709. Numbered September, 1922, for convenience in distribution.

"This tree has matured a very good crop of exceptionally fine freestone peaches. The fruit is yellow with red cheeks, in shape slightly flattened at the ends and bulging in the center, in size about 3 inches in diameter and 2½ inches long. The basin is wide and shallow, the suture rather indistinct. The flesh is yellow, very juicy, of extra fine quality, and very red at the pit, which is rather large, rough, and deeply corrugated. Average weight about 6½ ounces. A number of persons who have sampled this peach have pronounced it superb. It compares favorably with *Late Crawford* and is about a week later than *Elberta*. It is not as coarse in texture as the latter." (*J. E. Morrow.*)

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U. S. DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY

INVENTORY
OF
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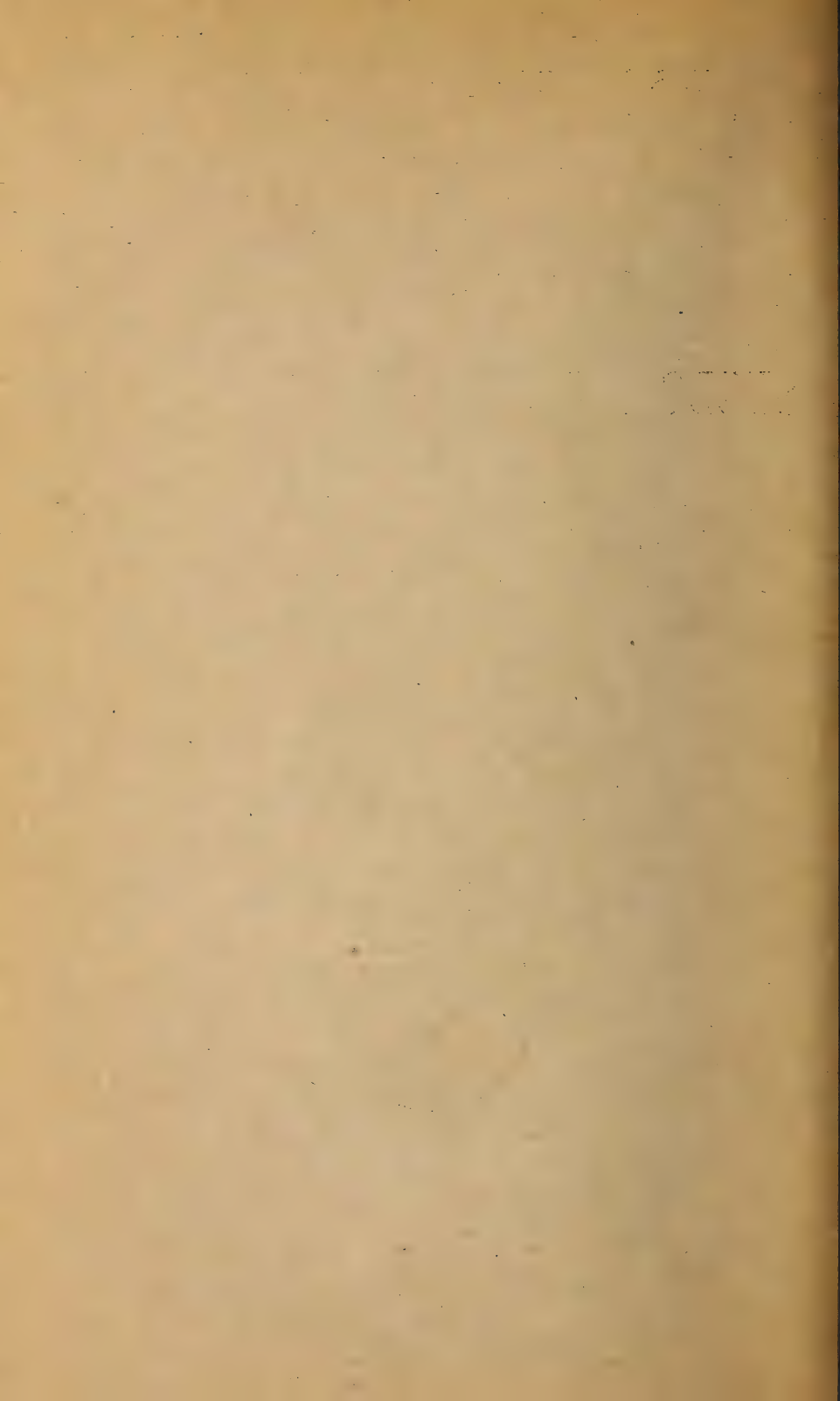
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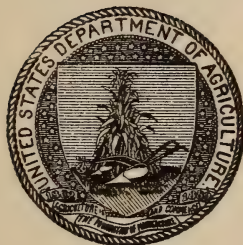
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INTRODUCTORY STATEMENT

To many it may not be apparent why the Province of Yunnan, which borders Tibet on China's western boundary, is a particularly likely place to search for plants for introduction into America.

Mr. Rock, our agricultural explorer, who has been collecting in this region now for nearly three years, shows by his notes and specimens in what way Yunnan plants are likely to be valuable to American horticulture.

The vast mountain area, in which he has been exploring, where snow-clad peaks 12,000 to 20,000 feet high rise from almost sub-tropical valleys and gorges thousands of feet deep have been channeled by the largest and longest rivers in Asia (the Mekong and the Yangtze) in their break through the mountains which bound the Tibetan table-land, furnishes a home for thousands of interesting plants which some day will enrich our horticulture.

It is true that other exploring botanists, like Forrest and Kingdon Ward, have visited it, but this is the first time that an American explorer, with the needs of our farms and gardens in mind, has hunted for plants which can be grown in American dooryards and has entered western China by its back door, so to speak, which is Bharno, on the border of Burma.

Mr. Rock's itinerary, like that of Frank Meyer, will be given in detail in a later number of this series. It suffices for him to locate the region where he collected the plants in this inventory. This centers chiefly around Likiang and the Likiang Snow Range. Many of the plants were found in localities where the thermometer goes below 32° F. and heavy snowfalls occur. High tropical altitudes and temperate-region latitudes correspond, but only roughly so, for it has come to be well recognized that high alpine plants are accommodated to conditions which do not prevail at many places at sea level in the Temperate Zone. The heavy and continuous blanket of snow which characterizes many mountain regions makes it possible for many rather tender plants, such as the potato, for example, to live in the ground over winter. To illustrate, in the higher altitudes of the Rockies on its western slopes and also as far north as Cape Breton Island, Nova Scotia, potato tubers often remain unfrozen in the soil because the soil is blanketed with snow before freezing weather occurs, whereas otherwise they would be frozen in

the ground nearly every year as far south as the Carolinas. Then, too, there must be taken into consideration the length of day, the atmospheric pressure which affects the amount of oxygen and carbon dioxid in the air, and the effect which high mountain atmosphere has upon the actinic rays of the sun. In other words, it should never be forgotten that these plants are essentially cosmic machines run by the sun's energy and that in no two places on the globe do identical atmospheric conditions prevail.

Twenty-five years of experience has taught those of us who have been establishing new plants in America to be very cautious in predicting where plants will thrive, for no one can foresee except in a general way the degree of accommodation which any new plant will exhibit. The only way to find out is to test it, and Mr. Rock has sent in large quantities of seeds for trial.

Exploring alone in any country has its shady side, but in Yunnan, where the explorer may at any time meet bands of roving bandits and be subjected to the barbarities which only savages know how to inflict, Mr. Rock has had to meet conditions which have been almost unbearable.

This fact should be borne in mind by those to whom in the years to come these plants are sent for trial, and their value should be measured in terms of the dangers and hardships which they have occasioned. That Mr. Rock has been able to hold out and keep moving to America a stream of seeds and cuttings is the wonder of his friends.

One of the reasons for Mr. Rock's expedition to Yunnan was to discover what species of chestnuts grow there and secure their seeds. In this quest he has been successful.

On the summit of the Salwin Ridge, southwestern Yunnan, Mr. Rock found dense forests of a large species of chestnut (*Castanea* sp.; No. 56080) which grows to be 100 feet tall and 5 feet in diameter and bears sweet edible nuts the size of chinquapins. It is an excellent timber tree, ratoons freely from the stump, and no evidence of any disease was found upon it. Four days' journey west of Talifu he found a small forest species, only 60 feet tall (*Castanea* sp.; No. 56119), also with small nuts; and a tall species near Tali Lake which bore deliciously sweet nuts (*Castanea* sp.; No. 55984). Whether out of these species or others which he has collected will come one which will solve the chestnut problem is a question which will require years to answer. At any rate the first step—that of getting together the Asiatic chestnuts—has been taken.

From the discovery by Mr. Rock of numerous distinct species of wild apples growing in the mountains far removed from civilization, it would appear that western Yunnan is the region from which to get southern forms of this fruit with which to build up by hybridization an apple for our Southern States which now lie below the apple belt. This collection includes fruits varying from the size of cherries to those of large-sized crab apples. Some are trees 40 feet high, growing in hot, dry, rocky locations where little else besides the Yunnan pine grows, and others have long drooping branches. None of these has as yet been determined botanically.

Wild as well as cultivated peaches also occur in western Yunnan, and Mr. Rock reports there a clingstone white-fleshed peach

(*Amygdalus persica*; No. 55929) $3\frac{1}{2}$ to 4 inches in diameter, which he found growing wild in the Likiang Valley, and other trees 40 to 50 feet tall with fruits tasting like cherries (Nos. 55885 and 55888).

Among the numerous wild species of *Prunus* are plums with fruits the size of walnuts (*Prunus* sp.; No. 55824), a lemon-yellow form from regions subjected to extreme drought and intense heat from October to June (No. 55901), and small-fruited forms, from 12,000 feet altitude on the slopes of Satseto in pure limestone soils, which may prove of value for stocks.

Mr. Rock has collected species of *Rubus* bearing delicious orange-red berries from 12,000 to 13,000 feet altitude (Nos. 55891, 55892, and 55904) and others from the shade of the spruce forest with fruits orange-red and translucent and an inch in diameter (No. 55892), crimson-stemmed drooping-branched ornamental forms (No. 55893), and still others which are spineless (No. 56114).

Mr. Rock has sent in a wild grape (*Vitis* sp.; No. 55953) which he found covering rosebushes there. It is a prolific bearer and its dull-purple berries are very sweet, which is not usually the case with wild species of *Vitis*. He has sent nuts from a wild walnut tree 50 feet tall and with a spread of branches of 100 feet (*Juglans regia*; No. 55989); a tree hazelnut (*Corylus* sp.; No. 55987) which grows to be 60 to 80 feet tall and has handsome, very large leaves and large edible nuts; various as yet unidentified species of persimmon (*Diospyros* spp.; Nos. 56132 to 56134); the rare *Catalpa duclouxii* (No. 55931) which makes a tree 70 to 80 feet tall and 4 feet in diameter and produces hard durable timber suitable for building purposes that may contribute to the development of a superior hybrid catalpa for forest purposes. In the way of ornamental shrubs, lilies, and other ornamental plants the region has already become noted in England. Mr. Rock has sent seeds of a honeysuckle (*Lonicera* sp.; No. 55897); the rare *Osteomeles schwerinae* (No. 55992) with its dull-purple fruits which are sweet and edible; gorgeous primroses (*Primula* spp.); an edible-fruited viburnum (*Viburnum* sp.; No. 55950); an ornamental currant (*Ribes* sp.; No. 55890); the wild peony (*Paeonia delavayi*; Nos. 55898, 55937, 55994); and a striking new ornamental tree (*Cornus* sp.; No. 55955).

In addition to Mr. Rock's collections there have been received from various correspondents throughout the world a wild plum from Beirut (*Prunus ursina*; No. 55872) for trial as a stock in southern California; Goodman's Choice peach (*Amygdalus persica*; No. 55831), a great success in Australia, which if it succeeds in America as it has there might easily add millions to the California peach-canning industry; a new mango (*Mangifera indica*; No. 55839) from Gerrit P. Wilder, of Honolulu, which turns yellow while hard and keeps well for two weeks; 39 varieties of beardless spring wheat (*Triticum aestivum*; Nos. 55842 to 55870) originated by two noted plant breeders of New South Wales, J. P. Shelton and J. T. Pridham, of Sydney. Some of these varieties are said to produce better flour than the noted Hard Federation wheat, which is also of Australian origin.

Dr. P. J. S. Cramer, of the Java Department of Agriculture, presents two interesting varieties of sugar cane (*Saccharum officinarum*; Nos. 55829 and 55830) from the Sugar Experiment Sta-

tion at Pasoeroean, Java, one of which instead of producing sugar produces only starch in its stems and one whose flower heads are so hypertrophied as to be used as a vegetable by the Javanese.

The botanical determinations of seeds introduced have been made and the nomenclature determined by H. C. Skeels, and the descriptive notes have been prepared by Paul Russell, who has had general supervision of this inventory.

DAVID FAIRCHILD,
Agricultural Explorer in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., December 21, 1923.

INVENTORY¹

55814. *OLEA EUROPAEA* L. Oleaceæ.

Olive.

From Nice, France. Cuttings presented by Dr. A. Robertson Proschowsky.
Received November 25, 1922.

Variety *Arbéquina*. This is a favorite among the Catalan nurserymen in the Province of Lerida, Spain, where it represents 92 per cent of the olives planted. It appears to be the one most resistant to the rather frequent drops in temperature on the Urgel Plain. The production is very high in the irrigated sections every year and every two years in the other sections. In habit the tree is spreading, with the secondary branches reflexed. In this region the olive trees are pruned every two years and often every year, with a special rejuvenating pruning every 10 or 12 years, in order to keep down the size of the trees and make easier the hand picking of the fruit. (Adapted from *Revue de Botanique Appliquée*, vol. 2, p. 26.)

55815. *DENDROCALAMUS SIKKIMENSIS* Gamble. Poaceæ. Bamboo.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received November 1, 1922.

"Seeds of the largest bamboo of these forests, collected at an altitude of 2,000 feet." (Cave.)

A beautiful tufted bamboo native to Sikkim, India, where the dark-green culms reach a height of 60 feet or more and a diameter of 5 to 7 inches. The species is easily distinguished by its large reddish brown globular flower heads and densely velvety stem sheath. The long narrow leaves are said to be poisonous, and from the stems are made the "chungas," or native buckets, used for carrying water and milk and for churning. (Adapted from *Annals of the Royal Botanic Garden, Calcutta*, vol. 7, p. 82.)

For previous introduction, see S. P. I. No. 54450.

55816. *VOANDZEIA SUBTERRANEA* (L.) Thouars. Fabaceæ.

From Ebolowa, Cameroon, West Africa. Seeds presented by Fred Hope.
Received November 2, 1922.

A creeping annual leguminous plant which matures its fruits in the same manner as the peanut, whence its common name "groundnut." It is native to tropical Africa and is extensively grown in that continent, as well as in other tropical countries, for its edible seeds.

For previous introduction, see S. P. I. No. 55104.

55817 to 55819.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received October 4, 1922. Quoted notes by Mr. Rock.

¹ It should be understood that the varietal names of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Seed and Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their identity fully established, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized American codes of nomenclature.

55817 to 55819—Continued.

55817. *MALUS* sp. Malaceæ.

Apple.

"(Likiang. July, 1922.) A tree 40 feet high, found wild and semi-cultivated in the vicinity of Likiang. The handsome fruits, about 2 inches in diameter, are bright crimson with just a touch of yellow. The flesh is firm, not mealy, with an acid-sweet flavor. A delicious bright-red jelly is made by boiling the fruits whole, in the skin, 2 parts of apples to 1 part of water; the juice is strained and boiled with sugar, 3 parts of sugar to 5 parts of juice."

55818. *PRUNUS* sp. Amygdalaceæ.

Plum.

"(Near Szemao. July, 1922.) A large tree, 40 feet or more in height, collected 30 li (9 miles) from Szemao, at 5,000 feet altitude. The red fruits are the size of walnuts, with loose, rather sour flesh. This should be good as a stock plant."

55819. *PRUNUS* sp. Amygdalaceæ.

Plum.

"(Near Szemao. July, 1922.) A large tree 45 feet high, found in the mountains at an altitude of 6,000 feet. The dark-red fruits, the size of large walnuts, have hard flesh with a sour insipid flavor. This tree was free from disease and should make a good stock plant."

55820 to 55826.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received October 9, 1922. Quoted notes by Mr. Rock.

55820. *COTONEASTER* sp. Malaceæ.

"(No. 5749. August, 1922.) A very ornamental shrub 8 to 10 feet high, growing in open scrubland among limestone boulders at altitudes of 9,000 to 10,000 feet on the Likiang Snow Range. The leaves are densely packed along the stems; the pinkish flowers are numerous, as are also the scarlet and yellow fruits, the latter resembling miniature apples."

55821. *COTONEASTER* sp. Malaceæ.

"(No. 5781. August, 1922.) A prostrate shrub, growing on pure limestone rocks on the Likiang Snow Range at altitudes of 8,000 to 10,000 feet. It has small dark-green glossy leathery leaves, pinkish white flowers, and rich-red fruits and would make a splendid shrub for rockeries."

55822. *PRUNUS* sp. Amygdalaceæ.

Cherry.

"(August, 1922.) A tree 35 to 40 feet high, growing among limestone boulders at an altitude of 10,000 feet. It is a fine shapely tree, with glossy leathery foliage, racemes of white flowers, and dark-red glossy fruits the size of a pea.

"The temperature at the village of Nguluke, in the Likiang Plain, drops to below zero Fahrenheit in the winter, and a fall of 22 inches of snow in December is not uncommon."

55823. *PRUNUS* sp. Amygdalaceæ.

Cherry.

"(August, 1922.) A shapely tree, which grows at an altitude of 10,000 feet among limestone boulders on the Likiang Snow Range. It has long drooping racemes of cream-colored flowers and small yellowish green fruits which are sour when ripe."

55824. *PRUNUS* sp. Amygdalaceæ.

Plum.

"(August, 1922.) A very hardy plum tree 35 to 40 feet high, growing semiwild in the vicinity of Likiang, at altitudes of 8,500 to 9,000 feet. The bright-red, perfectly round fruits are the size of large walnuts, clingstone, with yellow sweetish sour flesh which makes excellent jelly and jam."

55820 to 55826—Continued.**55825. RUBUS BIFLORUS** Buch.-Ham. Rosaceæ.

"(July, 1922.) A rambling shrub, collected on the Likiang Snow Range at altitudes of 11,000 to 12,000 feet. The large leaves have woolly lower surfaces, the large calyx is foliaceous, and the subacid yellow fruits are the size of a thimble."

55826. RUBUS sp. Rosaceæ.

"(No. 5359. July, 1922.) A vigorous rambling shrub, collected at an altitude of 12,000 feet on the Likiang Snow Range. It has red spiny stems, leaves with white lower surfaces, pinkish purple flowers, and small dark-red fruits of a delicious sweet flavor."

55827. CASTANEA SATIVA Mill. Fagaceæ. **European chestnut.**

From Morristown, N. J. Nuts presented by Dr. C. S. Sargent, Arnold Arboretum, Jamaica Plain, Mass. Received October 27, 1922.

From a tree grown on T. H. Symington's place.

Introduced for department specialists engaged in chestnut-breeding experiments.

55828. CUCUMIS SATIVUS L. Cucurbitaceæ. **Cucumber.**

From Burringbar, New South Wales. Seeds presented by B. Harrison. Received October 11, 1922.

"Harrison's Long. A cucumber 2 to 3 feet long, with tender, crisp, and palatable flesh. This variety is the result of careful selection and cultivation." (Harrison.)

55829 and 55830. SACCHARUM OFFICINARUM L. Poaceæ. **Sugar cane.**

From Pasoeroean, Java. Cuttings presented by J. Kuyper, assistant director, Sugar Experiment Station, Pasoeroean, at the request of Dr. P. J. S. Cramer, Director of the General Experiment Station, Buitenzorg. Received October 13, 1922. Quoted notes by Doctor Cramer.

55829. "*Teboe glonggong*. A variety with starch instead of sugar in its stems; this appears to be a botanically interesting variation."

55830. "*Teboe troeboeg*. A variety with hypertrophied flowers, used here as a vegetable."

55831. AMYGDALUS PERSICA L. Amygdalaceæ. **Peach.**
(*Prunus persica* Stokes.)

From Eastwood, near Sydney, New South Wales. Trees purchased from C. E. Vessey, Mount Tomah Nurseries. Received at the Plant Introduction Garden, Chico, Calif., September, 1922. Numbered October, 1922.

Goodman's Choice.

The following notes concerning the merits of this peach have been received from nurserymen in Australia:

From Herbert J. Rumsey, Dundas, New South Wales, June 13, 1922: "We have sent out a number of letters to friends who are in a position to know the behavior of this peach and its comparison with *Phillips's Cling* [at present the standard canning variety in California]. We have had a reply from Mr. Goodman, who states that this is easily the best quality canning peach the canners have ever seen and that growers in that State (Victoria) are putting in more acres of it than of all other yellow clings together.

"His catalog description, quoted below, shows that it ripens about six weeks later than *Tuscan Cling*:

"Undoubtedly the greatest yellow-fleshed clingstone peach introduced for many years. The tree is a heavy bearer each season of medium-sized fruits that are admirable for canning. The skin has a red blush on the sunny side;

the flesh is beautifully rich and translucent; the variety is remarkable for even crops and gradual ripening, which means so much when the picking campaign is in progress. The peaches ripen toward the end of February and, as the name indicates, represent my choice for canning."

"We know the behavior of the clings generally in this State, and we find that they have a great tendency to be uneven in shape. Our own nurseryman states that *Goodman's Choice* is one of the best late peaches that he has come across, but as we have no growers for canneries around there we can not give an authoritative report from that point of view ourselves."

From G. W. Peart, manager for C. J. Goodman, Bairnsdale, Victoria, June 14, 1922: "The flesh of this peach is wonderfully rich for canning purposes, and the processed product is just as superior to other varieties in appearance as it is in taste. In quality it is superior to *Phillips Cling*. Canners in this State declare that they can obtain more dozens of high-grade quality canned peaches from a ton of *Goodman's Choice* than from any other variety. This means that canners pay higher prices for *Goodman's Choice*. The variety is a regular cropper and has never failed to set a good crop in 12 years except once when a record late frost ruined all the stone fruits in the district. Unlike *Phillips Cling*, all the fruits on the tree come up to first-class cannery requirements." In another letter, dated June 30, 1922, Mr. Peart says further: "This peach originated about 18 years ago in one of our canning peach orchards at Mossface, Victoria. After careful testing, the late Charles J. Goodman planted 3,000 trees in 1910, and we commenced to sell trees in 1915. To-day I am selling more trees of this variety than of any other clingstone peach. Z. Akers, Shepparton Fruit Preserving Co., Shepparton, Victoria, has a block of 6-year-old *Goodman's Choice*, and he claims to have harvested an average crop of 3½ bushels of fruit per tree when the trees were just 4 years old."

From E. Meeking, Senior Fruit Inspector, Melbourne, Victoria, June 14, 1922: "The *Goodman's Choice* variety of peach is considered, in the opinion of those competent to judge, the best canning peach which has yet been produced. It is a good cropper, produces uniform fruits, is of excellent color and texture, and its flavor is considered superior to that of any other canning peach yet produced."

From L. J. Wicks, Highbury, South Australia, July 13, 1922: "As a canning fruit *Goodman's Choice* is certainly O. K. The texture is just right; it makes a rather pale sirup which, however, is remarkably clear."

55832 and 55833.

From Buitenzorg, Java. Seeds presented by Carl Hartley. Received October 11, 1922. Quoted notes by Mr. Hartley.

55832. CITRUS NOBILIS DELICIOSA (Ten.) Swingle. Rutaceæ.

Mandarin orange.

"A rather large, very loose-skinned mandarin orange grown in the highlands of western Java under the name *Djeroek Garoet*. The fruits from which these seeds were taken were juicy and of excellent flavor."

55833. RUBUS FRAXINIFOLIUS Poir. Rosaceæ.

"Collected at an altitude of about 3,500 feet on the Salak in western Java. The bush is often 2 meters high and very slightly thorny. The conical strawberry-red fruit, 2.5 centimeters long and 2 centimeters wide at the base, is inclined to be hollow and deficient in pulp, but it is not acid and the flavor is fairly good. The species may prove valuable in breeding work."

For previous introduction, see S. P. I. No. 31096.

55834. DIOSCOREA sp. Dioscoreaceæ.

Yam.

From China or Japan. Tuber presented by E. R. Sasscer, Federal Horticultural Board. Secured by an inspector of the California State Department of Agriculture. Received October 2, 1922.

"Tuber long, slender, dark skinned, white fleshed, rather small. When cooked the flesh is firm, but fairly mealy and of very good flavor." (R. A. Young.)

55835 and 55836. AMYGDALUS PERSICA L. Amygdalaceæ.(Prunus persica Stokes.) **Peach.**

From the Plant Introduction Garden, Chico, Calif. Seedling trees numbered October, 1922, for convenience in distribution. Quoted notes by J. E. Morrow.

A shipment of seeds of the peach variety *Tardio Amarillo* was received from southern Spain in November, 1916, and given S. P. I. No. 43570. As is well known, peach varieties do not come true to seed, and the two trees described below are promising seedlings from this shipment.

55835. "Tree No. 6, Test Nursery. Fruits $2\frac{1}{2}$ by $2\frac{1}{2}$ inches; average weight 4 ounces; color golden with a faint-red blush; basin deep and narrow, slight depression at suture; flesh yellow; pit yellow. Season September 5 to September 15, later than last year. This is a good canning clingstone peach and a heavy bearer."

55836. "Tree No. 8, Test Nursery. Fruits 2 by $2\frac{1}{2}$ inches; average weight 4 ounces; basin deep, narrow; suture only a thin line; flesh deep yellow; pit small, yellow; flesh of good texture and flavor. This peach should be propagated for canning purposes. It is of smaller size than last season and later in ripening."

55837. PHLEUM PRATENSE L. Poaceæ.**Timothy.**

From Kelburn, Wellington, New Zealand. Presented by E. Bruce Levy, biology section, Department of Agriculture, New Zealand. Received October 16, 1922.

"This seed, secured directly from the grower, represents a strain of timothy which has been grown in one district for 22 years." (Levy.)

Locally grown seed introduced for department specialists engaged in timothy-breeding investigations.

55838. TRIFOLIUM PRATENSE L. Fabaceæ.**Red clover.**

From Glavica, Dalmatia, Yugoslavia. Presented by the Knin Agricultural School, Glavica. Received October 14, 1922.

Seeds consisting of a mixture of "North" and "Composite" varieties, harvested in 1921 in Zetva, and obtained from a seed firm in Laibach, Slovenia, Yugoslavia.

Locally grown red-clover seed introduced for cultural and comparison tests.

55839. MANGIFERA INDICA L. Anacardiaceæ.**Mango.**

From Honolulu, Hawaii. Plant presented by Gerrit P. Wilder, through Willis T. Pope, horticulturist, Hawaii Agricultural Experiment Station. Received October 18, 1922.

"*Wootton*. The original was produced from seed of the mango known as No. 7, originally from Jamaica, and is growing on the property of J. L. Horner, Makiki St., Honolulu.

"A formal description of the fruit is as follows: In size it is medium to large; shape roundish; slightly flattened on the sides, no apex point evident; weight about 10 ounces; color when ripe a shade between orange-yellow and yellow-orange, with tinges of pink and red at the stem end and pale-yellow dots all over the surface; skin medium thin, tough, peeling qualities fair, very pleasing fragrance; flesh rich apricot yellow, very good texture; flavor excellent, juicy, sweet-acid; seed medium to small for size of fruit.

"An important characteristic of this variety is that while still solid it has a very beautiful color as if ripe, making it a very desirable marketing form. It is one of the very best of this seedling class of mangos. In moderate temperatures it will remain in good condition as ripe fruit for two weeks." (Wilder.)

55840. ACTINIDIA CHINENSIS Planch. Dilleniaceæ. Yang-tao.

Plants raised from seed secured from D. W. Coolidge, Pasadena, Calif.
Numbered October, 1922, for convenience in distribution.

Plants of this large-fruited seedling have been propagated at the Plant Introduction Garden at Chico, Calif., under P. I. G. No. 19420 and at Bell, Md., under P. I. G. No. 1846.

"The *yang-tao*, an ornamental deciduous climber native to Szechwan, China, has attracted considerable attention because of the high quality of its fruits. The leaves have a plushlike texture and an unusual dark-green color, and their large size and regular spacing add to the beauty of the vine. The flowers are buff yellow to white, fragrant, often $1\frac{1}{2}$ inches across, and are produced in great abundance. The ovoid to globose russet-brown villous fruits are about 2 inches long. The flesh is green, of most excellent flavor, resembling that of a gooseberry, but tempered with a flavor peculiarly its own. The fruit is good when eaten fresh and also makes very fine jam and sauce." (*David Fairchild*.)

For previous introduction, see S. P. I. No. 54400.

55841. LYCOPERSICON ESCULENTUM Mill. Solanaceæ. Tomato.

From Montevideo, Uruguay. Seeds presented by Luis Guillot, Dirección de Paseos Públicos. Received October 18, 1922.

Introduced from tropical America in the hope of securing a strain immune to tomato leaf-spot.

**55842 to 55870. TRITICUM AESTIVUM L. Poaceæ.
(*T. vulgare* Vill.) Common wheat.**

From Sydney, New South Wales. Presented by J. P. Shelton, plant breeder, Department of Agriculture, Sydney. Received October 17, 1922. Quoted notes by Mr. Shelton.

"The varieties listed below are all beardless spring wheats, white grained, with medium to strong flour qualities, and all give commercial yields in some districts. Those marked 'strong flour' should give a flour of better bread-making qualities than those marked 'Hard Federation.'"

55842 to 55855. "(A) Varieties lately bred in New South Wales by J. T. Pridham, but not yet in general cultivation."

55842. *Aussie*.

55843. *Baldknob*.

55844. *Early Bird*. (Very early.)

55845. *Forelock*. (Bearded.)

55846. *Ghurka*. (Strong flour. Very early.)

55847. *Riverina*. (Early.)

55848. Selection 13 (C1) from Hard Federation. (Strong flour.)

55849. Selection 19 (C1) from Hard Federation. (Strong flour.)

55850. Selection 69 (A6) from Hard Federation.

55851. *Stamina*. (Strong flour. Early.)

55852. *Wagga* No. 49.

55853. *Wagga* No. 54. (Early.)

55854. *Wandilla*.

55855. *Waratah*. (Early.)

55856 to 55860. "(B) Varieties in general cultivation in New South Wales and Victoria."

55856. *Canberra*. (Very early and prolific.)

For previous introduction, see S. P. I. No. 42109.

55842 to 55870—Continued.**55857.** *Gallipoli.***55858.** *Gresley.***55859.** *Improved Steinwedel.***55860.** *Minister.* (Strong flour and late.)**55861 to 55868.** "(C) Varieties lately fixed in West Australia; some from crosses made in New South Wales."**55861.** *Carrabin.* (Strong flour.)**55862.** *Cuballing.***55863.** *Dindiloa.* (Strong flour.)**55864.** *Gerralying.* (Strong flour.)**55865.** *Merredin.***55866.** *Nabawa.***55867.** *Nangeenan.***55868.** *Narrogin.* (Strong flour.)**55869 and 55870.** "(D) Varieties for a hot climate with summer rainfall."**55869.** *Boureng.***55870.** *Bunge.*

For previous introduction, see S. P. I. No. 47380.

55871. PEUMUS BOLDUS Molina. Monimiaceæ.

From Santiago, Chile. Seeds presented by Salvador Izquierdo. Received October 13, 1922.

"*Boldo.* A small tree esteemed in Chile for its ornamental and medicinal value. The dried leaves are exported to Europe, where they are employed in diseases of the liver. An infusion of the flowers is also used medicinally. The fruits are eaten but are not of great value.

"The tree is dioecious and very aromatic in all its parts. It has opposite, rough, short-petioled, ovate leaves; the flowers, borne in small axillary racemes, are followed by fruits the size of our northern haws." (*Wilson Popenoe.*)

For previous introduction, see S. P. I. No. 54639.

55872. PRUNUS URSINA Kotschy. Amygdalaceæ.**Plum.**

From Beirut, Syria. Seeds presented by Alfred E. Day, American University of Beirut. Received October 14, 1922.

"A wild plum. The fruits of this particular tree are decidedly larger and sweeter than usual; they are about $1\frac{1}{4}$ inches in diameter and yellow with pink cheeks." (*Day.*)

55873. COTONEASTER HEBEPHYLLA Diels. Malaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received October 18, 1922.

"(Likiang, August, 1922.) A deciduous shrub 10 to 18 feet in height, growing in limestone soil at an altitude of 10,000 to 11,000 feet on the Likiang Snow Range. It has long rambling branches, white flowers, and dark-carmine fruits and is quite ornamental." (*Rock.*)

55874 to 55884.

From Petrograd, Russia. Seeds presented by Prof. N. I. Vavilov, director, Russian Bureau of Applied Botany of the Agricultural Scientific Committee, through D. N. Borodin. Received October 19, 1922. Quoted notes by Mr. Borodin.

"The numbers refer to the inventory book of the Russian Bureau of Applied Botany."

55874 to 55877. *PISUM ARVENSE* L. Fabaceæ. Field pea.

55874. "Vavilov's 'Mahor,' No. 193, 1921. From Varg'on Goont, Pamir."

55875. "Vavilov's 'Mahor,' No. 194, 1921. From Sengi, Pamir."

55876. "Vavilov's 'Mushung,' No. 190. From Chil-Dare-Darviz, Pamir."

55877. "Vavilov's 'Mushung,' No. 195. From Kooliab, Pamir."

55878 to 55880. *PISUM SATIVUM* L. Fabaceæ. Garden pea.

55878. "Pissarev's B/11, No. 317. From Irkutsk Government, Siberia."

55879. "Pissarev's No. 318. From Ust-Uda, Irkutsk Government, Siberia."

55880. "Pissarev's 'Tulunsky Hybrid,' No. 316. From Tulun, Siberia."

The fact that the following are without ligules is noted as being of interest to botanists, such forms being rare in this country:

55881. *SECALE CEREALE* L. Poaceæ. Rye.

"Vavilov's rye, grown in Russia in 1921. From Pamir."

55882 to 55884. *TRITICUM AESTIVUM* L. Poaceæ. Common wheat.
(*T. vulgare* Vill.)

55882. "Vavilov's wheat, No. 96. From Pamir."

55883. "Vavilov's wheat, No. 648. From Pamir."

55884. "Vavilov's wheat, No. 1569. From Pamir."

55885 to 55893.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received October 21, 1922. Quoted notes by Mr. Rock.

55885 to 55888. *AMYGDALUS PERSICA* L. Amygdalaceæ. Peach.
(*Prunus persica* Stokes.)

55885. "(Puerhfu. August, 1922.) A large tree growing wild in the mountains at an altitude of 5,000 feet. The fruits are a beautiful red, clingstone, with juicy, rather strong-flavored flesh resembling that of a cherry."

55886. "(Puerhfu. August, 1922.) A large tree 50 feet in height, growing wild in the mountains at an altitude of 5,500 feet. The fruits are of fairly good size, yellow with a red cheek, clingstone, with yellow, very juicy flesh of excellent flavor."

55887. "(Likiang. August, 1922.) A large vigorous tree growing at an altitude of 8,500 feet. The large fruits, 2½ inches in diameter, are red and yellow on the surface, with firm snow-white, quite tasteless flesh. This should be a good stock plant."

55888. "(Puerhfu. August, 1922.) A large tree, 40 to 50 feet high, growing wild in the mountains. The fruits are the size of small apples, pure white outside, clingstone, with snow-white, very juicy flesh resembling that of a cherry."

55885 to 55893—Continued.

55889. *MALUS* sp. Malaceae. Apple.

"(Likiang. August 15, 1922.) A large vigorous tree growing wild and semicultivated. The fruits, the size of walnuts, are bright crimson with a touch of yellow on one side, with acid-sweet, very palatable flesh, are excellent for jam or jelly and also quite ornamental."

55890. *RIBES* sp. Grossulariaceae.

"(No. 5833. Likiang. August 16, 1922.) A shrub 6 to 15 feet in height, growing in alpine meadows at an altitude of 12,000 feet, where it is 5 or 6 feet high; also in fir forests, where it reaches a height of 15 feet. It is a beautiful plant with pendent branches loaded with flowers in early May. In the latter part of August the fruits appear; these are yellowish red berries the size of a pea, with an acid-sweet flavor."

55891 to 55893. *RUBUS* spp. Rosaceae. Raspberry.55891. *RUBUS* sp.

"(Likiang. August 15, 1922.) A shrub 4 feet high, growing in protected gulches on the Likiang Snow Range at an altitude of 12,000 feet. It bears delicious orange-red berries and may be only a form of the following [S. P. I. No. 55892]."

55892. *RUBUS* sp.

"(Likiang. August 15, 1922.) A shrub 4 feet high, growing on the Likiang Snow Range at an altitude of 13,000 feet in the shade of *Larix thibetica* and also in fir and spruce forests. The large orange-red translucent berries, an inch in diameter, are very juicy and of delicious flavor. This is certainly worthy of cultivation."

55893. *RUBUS* sp.

"(Likiang. August, 1922.) A shrub growing in sheltered ravines on the Likiang Snow Range at an altitude of 11,000 to 12,000 feet. It has crimson-stemmed drooping branches and trifoliate leaves, with the lower surfaces slightly pruinose or silvery. The fruits, somewhat smaller than those of the preceding species, are obconical, darker red, and faintly pubescent."

55894 and 55895.

From Hongkong, China. Seeds presented by H. Green, superintendent, Botanical and Forestry Department. Received October 21, 1922.

55894. *GARCINIA OBLONGIFOLIA* Champ. Clusiaceae.

A tree native to Hongkong, China, which is a relative of the mangosteen. It has narrow short-stalked leaves, terminal yellow flowers, and smooth fruits the size of a small apple. (Adapted from *Bentham, Flora Hongkongensis*, p. 25.)

"This species has just come into bearing in one of our greenhouses, and we find the fruit to be of very good quality for eating out of hand. The flavor suggests that of the mangosteen." (Wilson *Popnoe*.)

For previous introduction, see S. P. I. No. 36497.

55895. *UVARIA CALAMISTRATA* Hance. Annonaceae.

"A native fruit which grows wild here and is erroneously called by the natives 'Hill Lai Chi.'" (Green.)

A climbing plant, native to Hongkong, with rather thick oblong leaves, clustered yellowish flowers, and elliptical fruits about a third of an inch in length. (Adapted from *Journal of Botany*, vol. 20, p. 77.)

55896 to 55905.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received October 25, 1922. Quoted notes by Mr. Rock.

55896. *COTONEASTER PANNOSA* Franch. Malaceæ.

"(No. 5818. August 20, 1922.) A very ornamental shrub 10 feet high, growing among limestone boulders in fir forests and alpine meadows on the Likiang Snow Range at altitudes of 9,000 to 12,000 feet. The flowers are whitish pink and the ovate fruits purplish black."

For previous introduction, see S. P. I. No. 40169.

55897. *LONICERA* sp. Caprifoliaceæ.

Honeysuckle.

"(No. 6058. August 25, 1922.) A shrub or small tree 20 feet in height, with a trunk a foot in diameter, which grows in limestone soil in the foothills near Likiang at altitudes of 9,000 to 10,000 feet. The flowers, which appear in early spring, are a deep orange-yellow, with a paler lower lip, and the small round fruits are tomato red."

55898. *PAEONIA DELAVAYI* Franch. Ranunculaceæ.

Peony.

"(No. 6059. August 25, 1922.) A very attractive, vigorous shrub 4 feet high, growing on steep slopes among limestone boulders and in alpine meadows at altitudes of 10,000 to 13,000 feet on the Likiang Snow Range. The deep-crimson flowers are 3 inches in diameter."

55899. *PRIMULA SINOPURPUREA* Balf. f. Primulaceæ.

Primrose.

"(No. 5783. August 25, 1922.) A very charming robust plant 3 feet in height, growing in acid soil in boggy meadows at an altitude of 14,000 feet on the Likiang Snow Range. The leaves are golden yellow beneath, and the large umbels of rich-purple flowers appear in April and early May. When in flower this plant is very striking."

For previous introduction, see S. P. I. No. 55339.

For an illustration of this Chinese primrose, see Plate I.

55900. *PRIMULA VINCIFLORA* Franch. Primulaceæ.

Primrose.

"(No. 5782. August 25, 1922.) One of the finest primulas found on the Likiang Snow Range. It grows in company with the preceding, *P. sinopurpurea* [S. P. I. No. 55899], in similar situations, though not nearly so common, for it does not seed readily. The deep indigo-blue flowers are an inch and a half across and, like the preceding, appear quite early."

For previous introduction, see S. P. I. No. 55340.

55901. *PRUNUS* sp. Amygdalaceæ.

Plum.

"(No. 6056. August 25, 1922.) A wild plum tree 20 to 25 feet high, of spreading habit, found in limestone soil on the eastern side of the Likiang Plain, opposite the Snow Range, at an altitude of 10,500 feet. It bears perfectly round fruits an inch in diameter, lemon yellow, opaque, with firm sour flesh which is somewhat sweet when absolutely mature. The tree is very healthy and an abundant fruiter and should make a good stock plant where hardiness is desired. The locality where it was collected is subject to drought from October to June, when the heat is intense, and snow falls in the winter."

For an illustration of this Asiatic plum, see Plate II.

55902. *RIBES GLACIALE* Wall. Grossulariaceæ.

"(August 21, 1922.) A shrub 15 feet high, growing in alpine meadows at an altitude of 12,000 to 15,000 feet on the Likiang Snow Range. The flowers, which vary from cream colored to red, and the red oval berries make this shrub decidedly ornamental."

55903. *RUBUS* sp. Rosaceæ.

Raspberry.

"(No. 5834. August 16, 1922.) A raspberry with large rich-green leaflets, collected on the Likiang Snow Range at an altitude of 11,000



A HANDSOME CHINESE PRIMROSE (*PRIMULA SINOPURPUREA* BALF. F.; S. P. I.
No. 55899)

Because of its vigor and free-flowering habit in the high mountains of western China, where it is native, this primrose seems likely to be more satisfactory in cultivation than other members of the "nivalis" section of the genus, to which this species belongs. It was found by J. F. Rock in boggy meadows on the Likiang Snow Range in northern Yunnan at an altitude of 12,000 feet. The plant grows to a height of about 3 feet, and the flower stalks and lower surfaces of the thick dark-green leaves are covered with golden meal. In May the rich rosy purple, fragrant flowers, each about an inch in diameter, are produced in clusters of 6 to 12 or more. (Photographed by J. F. Rock, Yunnan, China, May, 1922; P30216FS)



A DROUGHT-RESISTANT ASIATIC PLUM (*PRUNUS* SP.; S. P. I. No. 55901)

A hardy wild plum which is drought and heat resistant deserves trial as a stock for regions in the United States where dry hot summers combine with cold winters to make the growing of stone fruits very difficult. This species was discovered in limestone soil on the Likiang Snow Range, Yunnan, China, at an altitude of 10,500 feet, where it grows as a spreading tree 20 to 25 feet high. It bears a large number of round lemon-yellow fruits an inch in diameter. Its native region is subject at times to intense heat and drought, and snow falls in the winter. (Photographed by J. F. Rock, September 1, 1922; P30289FS)

55896 to 55905—Continued.

feet. The yellow fruits the size of a thimble have a delicious flavor. The plant thrives in limestone soil."

55904. RUBUS sp. Rosaceæ.

"(No. 6057. August 24, 1922.) One of the finest species of *Rubus* on the Likiang Snow Range, where it grows at an altitude of 13,000 feet in forests of *Larix thibetica*. The orange-yellow fruits are larger than any of the cultivated species of *Rubus* and are rich in color, juice, and flavor."

55905. ROSA sp. Rosaceæ.**Rose.**

"(No. 5835. August 20, 1922.) A shrub 10 feet high, growing in meadows on the Likiang Snow Range at altitudes of 12,000 to 15,000 feet. It is a very ornamental plant, with red stems and red, curved, beadlike fruits. There are innumerable varieties, the flowers varying in color from creamy white to red."

55906. CITRULLUS VULGARIS Schrad. Cucurbitaceæ. Watermelon.

From Palm City, Camaguey, Cuba. Seeds presented by Rudolph Russ. Received October 28, 1922.

Watermelon seeds introduced from Cuba for experimental purposes by department horticulturists.

55907. LEYCESTERIA GLAUCOPHYLLA (Hook f. and Thoms.) C. B. Clarke. Caprifoliaceæ.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received October 23, 1922.

A slender plant, closely allied to the honeysuckles, with pale-green leaves and bearing in the early winter a profusion of pink flowers in short axillary spikes. It is native to the subtropical Himalayas at an altitude of 5,000 feet. (Adapted from *Gardeners' Chronicle*, 1858, p. 700.)

55908 to 55910.

From Darjiling, India. Seeds secured from G. H. Cave, curator, Lloyd Botanic Garden, by H. J. Elwes, Colesborn, Cheltenham, England, and presented by J. N. Rose, United States National Museum, Washington, D. C. Received October 20, 1922.

55908. OSBECKIA CRINITA Benth. Melastomaceæ.

A much-branched shrub 4 to 8 feet high, with small, narrow bristly leaves and large purple or pure-white flowers borne in terminal clusters. This plant is abundant at altitudes of 4,000 to 8,500 feet in the mountains of Sikkim and Bhutan, India. (Adapted from *Hooker, Flora of British India*, vol. 2, p. 517.)

55909. PIERIS FORMOSA (Wall.) D. Don. Ericaceæ.

A Himalayan bush, 15 to 20 feet in height, which bears large terminal clusters of white flowers resembling those of the lily of the valley. The glossy green foliage persists throughout the winter, making a very effective background for the flowers. (Adapted from *The Garden*, vol. 79, p. 111.)

55910. SYMPLOCOS GLOMERATA King. Symplocaceæ.

A shrub or small tree becoming 10 feet high, with narrow leathery leaves 6 inches long and axillary clusters of small white flowers. This shrub is rather common in the hills of Sikkim and Bhutan, India, at altitudes of 1,000 to 8,000 feet. (Adapted from *Hooker, Flora of British India*, vol. 3, p. 577.)

55911 to 55913. DAVIDIA spp. Cornaceæ.

From Kew, England. Presented by Dr. A. W. Hill, director, Royal Botanic Gardens, Kew. Received November 2, 1922.

55911. DAVIDIA INVOLUCRATA Baill.

Budwood of a handsome tree from western China, where it reaches a height of 60 to 70 feet; in habit and foliage it resembles a linden. The bright-green oval leaves, 3 to 6 inches long, are sharply toothed and slender stalked, and the globular heads of small flowers, borne on slender nodding stalks about 2 inches long, appear in May and are made unusually striking because of the two or three large white bracts. These bracts are of unequal size, the largest being from 4 to 7 inches long and 2 to 4 inches broad. (Adapted from *Horticulture*, vol. 10, p. 433.)

For previous introduction, see S. P. I. No. 49668.

55912 and 55913. DAVIDIA INVOLUCRATA VILMORINIANA (Dode) Hemsl.

This variety does not show any difference in flower characters from the preceding, but the leaves are smooth, and it may not prove as hardy as the typical form. (Adapted from *Horticulture*, vol. 10, p. 433.)

For previous introduction, see S. P. I. No. 52936.

55912. Seeds.**55913. Budwood.****55914. BERTHOLLETIA NOBILIS Miers. Lecythidaceæ. Brazil nut.**

From Santa Cruz de la Sierra, Bolivia. Seeds presented by Juan S. Bowles. Received November 1, 1922.

"The Brazil nut has never been successfully cultivated in any part of the United States, so far as known to us, and is probably too tropical in its requirements for even the mildest wintered sections of Florida and California. It may be possible to grow it in Porto Rico, the Canal Zone, parts of Hawaii, and the Philippines. Seeds received in past years have usually come from northern South America, where are found the principal centers of production. These seeds from Bolivia may yield trees which will be slightly less exacting in their requirements than those from regions nearer the Equator." (*Wilson Popenoe*.)

55915 to 55919. AMYGDALUS PERSICA L. Amygdalaceæ. Peach.
(*Prunus persica* Stokes.)

From Angol, Chile. Plants presented by the Instituto Agrícola Bunster, Angol. Received November 7, 1922.

"In the orchards of central Chile are cultivated numerous peach varieties of local origin. Most of them are clingstones, for this type is more popular in that country, apparently, than the freestone. Some of them are of large size and fine quality. In fact, they compare very favorably with the best peaches of other countries.

"The peach growers of California are interested in securing the best available clingstone varieties for the production of fruit to be used for canning and preserving. To this end an effort is being made by this office to secure interesting sorts from all parts of the world. The Chilean varieties are worth a careful trial. The following descriptive notes are adapted from the nursery catalogue of the Instituto Agrícola Bunster." (*Wilson Popenoe*.)

55915. Blanquillo de Mayo. A very late, productive variety, with medium-sized fruits; excellent for preserves.

55916. De Vino. A very good clingstone variety whose season is in March. The fruits are very large, with very dark-red flesh.

55917. Monstruoso amarillo de Pina del Mar. A freestone variety which ripens in February. The very large fruits are of excellent quality.

55918. O'Higgins. A clingstone variety which ripens in March. The large fruits are a clear yellow.

55919. Pavia blanco. The large fruits are of good quality and are excellent for preserves or for drying. Season, February and March.

55920. PLOCAMA PENDULA Ait. Rubiaceæ.

From Orotava, Canary Islands. Seeds presented by Juan S. Bolinaga. Received November 10, 1922.

"A species of low-growing shrub found on the slopes of the arid hillsides in the Canary Islands. It has a most beautiful weeping habit, giving the plants the appearance of tiny weeping willows not over $2\frac{1}{2}$ to 3 feet high. This would be very beautiful as a cover for dry hillsides overlooking the sea. It has already been brought into cultivation and will probably withstand severe drought." (*David Fairchild.*)

For previous introduction, see S. P. I. No. 21611.

55921. POSOQUERIA LATIFOLIA (Rudge) Roem. and Schult. Rubiaceæ.

From Ancon, Canal Zone. Seeds presented by James Zetek. Received November 14, 1922.

"The very conspicuous white flowers of this rubiaceous plant have a sweet perfume somewhat like that of the orange jessamine (*Chalcas exotica* Millsp.)." (*Zetek.*)

A shrub, sometimes 25 feet high, native to the forests of northern Bahia, Brazil, where it grows in dry sandy soil with but little water. It flowers in February, and its succulent fruits, which ripen in July, are sold in the native markets for making marmalade and jelly. The greatest value of the shrub, however, lies in the finely grooved rigid branches, which are highly prized for walking sticks. These are exported to England under the name of "Brazilian oak." (*Adapted from Kew Bulletin of Miscellaneous Information, 1904, p. 9.*)

A handsome plant, worthy of general trial in tropical regions.

55922. CUCUMIS MELO L. Cucurbitaceæ. Muskmelon.

From Angol, Chile. Seeds presented by the Instituto Agrícola Buuster. Angol. Received November 13, 1922.

"The melons of Chile, which ripen during the months of February, March, and April, are famous for their delicate flavor and remarkable keeping quality. Recently a number of them have been shipped from Valparaiso to New York, reaching the latter market in good condition. This seed is to be tested in our Southwestern States." (*Wilson Popenoe.*)

55923. PUNICA GRANATUM L. Punicaceæ. Pomegranate.

From Tangier, Morocco. Seeds presented by Jules Goffart. Received November 14, 1922.

"A variety of pomegranate with white flowers and fruits, which I found in Reunion. In flavor the fruit is slightly more acid than most varieties. When in flower and in fruit the tree is very ornamental." (*Goffart.*)

For previous introduction, see S. P. I. No. 40856.

55924. DIOSCOREA PENTAPHYLLA L. Dioscoreaceæ. Yam.

From Aulnay sous Bois, France. Tubers presented by Prof. R. de Noter, École d'Acclimatation de Recherches Agricoles. Received December 7, 1922.

Variety *Hortorum*.

"*Igname ronde de Chine* (round yam of China). The tubers made the first season, from plants grown from 'eyes' dug and replanted, weigh $1\frac{1}{2}$ kg. each; the second year the tuber may weigh 4 to 5 kg. The plant requires light sandy clay or, better, calcareous, richly fertilized soil. The tubers are gathered at the first frost and stored in the cellar. Two years' storage does not injure but improves the tubers. This yam is an excellent vegetable of delicate flavor and makes delicious fritters, cakes, and soufflés. The leaves, after the harvest, are used as cattle feed." (*De Noter.*)

For previous introduction, see S. P. I. No. 52867.

55925. CITRUS GRANDIS (L.) Osbeck. Rutaceæ. Pummelo.
(*C. decumana* Murr.)

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, Department of Agriculture, Buitenzorg. Received November 17, 1922.

"A red-fleshed pummelo of fair quality and well-developed color." (*Cramer.*)

For previous introduction, see S. P. I. No. 46336.

55926 to 55955.

From Yunnan, China. Collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received November 2, 1922. Quoted notes by Mr. Rock.

55926. ALEURITES sp. Euphorbiaceæ.

"(No. 6163. August 10, 1922.) Seeds of a tree 10 to 15 feet high, which grows wild on the lower slopes of the mountains of the Yangpi Valley, at an altitude of 6 600 feet. It is called *Tung-yu shu* by the natives; oil is obtained from the seeds and used for making oilcloth and also for burning."

55927 to 55929. AMYGDALUS PERSICA L. Amygdalaceæ. Peach.
(*Prunus persica* Stokes.)

55927. "(August 10, 1922.) Seeds of a half-wild peach growing near Yangpi, two days from Talifu. The tree is old, with large trunks; the large reddish and green fruits, 4 inches in diameter, are free-stone, with firm, sweet, white flesh which becomes red near the seed."

55928. "(Yangpi. August 10, 1922.) Seeds of a half-wild peach growing near a temple. The fruits are 1½ to 2 inches in diameter, clingstone, very juicy and sweet."

55929. "(August 20, 1922.) Seeds of one of the largest fruited peaches I know of, found growing wild in the Likiang Valley. The pointed fruits are 3½ to 4 inches in diameter, clingstone, with firm white flesh of fair flavor."

55930. CASTANEA MOLLISSIMA Blume. Fagaceæ. Chestnut.

"(No. 6165. Yangpi. August, 1922.) Seeds of a tree about 40 feet high which grows along the lower western slopes of the Tsangshan Range of the Yangpi Mountains. The trunk is about 2 feet in diameter, and the long narrow leaves are sharply serrate."

55931. CATALPA DUCLOUXII Dode. Bignoniaceæ.

"(No. 3097. Near Nguluke. September 8, 1922.) Cuttings of a tree 70 to 80 feet high, with a diameter of 4 feet or more, growing at an altitude of 9,400 feet in the Likiang Valley. At this altitude the trees do not bear seed. It is a very handsome tree, bearing in early spring large clusters of pinkish purple flowers. The hard, durable wood is very valuable and is used for building purposes."

55932. CRATAEGUS PINNATIFIDA Bunge. Malaceæ. Hawthorn.

"(No. 6166. Yangpi. August 10, 1922.) Seeds of a shrub 5 feet high, found at an altitude of 6,000 to 7,000 feet on the lower slopes of the mountains of the Yangpi Valley. The edible fruits are boiled with sugar and candied like jujubes. Native name 'Shan li ko' (mountain pear fruit)."

55933. HEMEROCALLIS FORRESTII Diels. Liliaceæ.

"(Nos. 3841 and 4546. August 27, 1922.) Seeds of a very handsome plant about 2 feet high, growing with *Incarvillea grandiflora brevipes* on the Likiang Snow Range at an altitude of 11,000 feet. It has a thick rootstock, narrow lanceolate leaves, and deep golden orange tubular flowers 2 to 3 inches long borne in many-flowered spikes. It flowers only in very early spring and is suited only for pure limestone soil.

55926 to 55955—Continued.

55934. *INCARVILLEA GRANDIFLORA BREVIPES* Sprague. Bignoniaceæ.

"(Nos. 4127, 4128, 6122. August 27, 1922.) Seeds of a gorgeous perennial, a foot or more in height, found growing at an altitude of 9,000 to 11,000 feet on the Likiang Snow Range. It has a thick stout rootstock, a large rosette of rich-green leaves, and flowers 3 inches wide. These flowers, which appear in March and April, have a long yellow calyx tube and a corolla which is a rich reddish purple or vermillion. This plant, one of the most striking of early spring, grows in snow-white magnesium-limestone soil."

For an illustration of this variety, see Plate III.

55935. *LILIUM TIGRINUM* Ker. Liliaceæ. Tiger lily.

"(Nos. 4889 and 5357. September 7, 1922.) Bulbs of an orange-flowered lily cultivated by the Mosos in Likiang for the bulbs, which are eaten as a vegetable; only the outer scales are sold, the inner part being kept for planting. This lily grows wild along watercourses in the Likiang Plain at an altitude of 9,000 feet. The numerous large flowers, orange with purple, are very attractive."

55936. *MELIOSMA CUNEIFOLIA* Franch. Sabiaceæ.

"(Nos. 4410, 4721, 6136. September 3, 1922.) Seeds of a beautiful flowering shrub or small tree 12 feet high, found growing at an altitude of 9,000 to 10,000 feet along watercourses on the northern end of the Likiang Snow Range, usually among limestone boulders. In habit it resembles the weeping willow, with drooping branches bearing on their apices large pyramidal clusters of cream-colored flowers. During June and July this shrub is an object of great beauty."

55937. *PAEONIA DELAVAYI* Franch. Ranunculaceæ. Peony.

"(No. 6059. September 3, 1922.) Seeds of a very attractive vigorous shrub 4 feet high, growing in rather dry situations north of Likiang among limestone boulders at an altitude of 9,800 feet. The deep-crimson flowers are 3 inches in diameter."

For previous introduction, see S. P. I. No. 55898.

55938. *PAPYRIUS* sp. Moraceæ.

"(No. 6162. Langkung. August 16, 1922.) Seeds of a shrub or small tree 10 feet high, which grows along streams at an altitude of 7,000 feet."

This genus includes the well-known paper mulberry.

55939. *POLYGALA ARILLATA* Buch.-Ham. Polygalaceæ.

"(No. 6167. Yangpi. August 10, 1922.) Seeds of an ornamental shrub 3 to 4 feet high, found growing on the lower mountain slopes at an altitude of 7,000 feet. The bright-yellow flowers are borne in long spikes, and the seed pods are small."

For previous introduction, see S. P. I. No. 49646.

55940. *PRUNUS* sp. Amygdalaceæ. Cherry.

"(September 8, 1922.) Seeds of a cherry tree 25 to 30 feet in height with a trunk 8 to 10 inches in diameter, which grows in the main gorge leading to the snow-capped peak Satseto (altitude 21,000 feet), among pure limestone rocks, at an altitude of 12,000 feet. The water in the stream bed of this gorge is like milk because of the limestone soil; in the winter the gorge is filled with ice.

"The leaves of this tree are flaccid and bluish green. The long-stemmed bright-red ovoid-oblong cherries appear very late, in September, and are borne singly in the axils of the leaves; the juicy, bitter, bright-red flesh is not firm, and the stone is small. This would probably make a good stock plant for alkaline regions."

55941. *PRUNUS* sp. Amygdalaceæ. Plum.

"(No. 6117. August 26, 1922.) Seeds of a wild plum tree about 20 feet high, which grows along banks of streams in the Likiang Plain at

55926 to 55955—Continued.

an altitude of 9,500 to 10,000 feet. The round lemon-yellow fruits are about an inch in diameter. The tree is a prolific bearer and grows in alkaline soil."

55942 to 55946. *ROSA* spp. Rosaceae.

Rosa.

55942. *ROSA* sp.

"(Nos. 6125, 6127, 6128, 6129, 6130. August 30, 1922.) Seeds of a mixture of a number of closely related forms found in the limestone meadows of Saba, Likiang Snow Range, at an altitude of 11,000 feet. They are all shrubs 8 to 10 feet in height."

55943. *ROSA* sp.

"(No. 6121. August 28, 1922.) Seeds of a shrub 12 to 15 feet high, with long rambling branches, found along watercourses on the north end of the Likiang Plain at an altitude of 9,000 to 10,000 feet. It bears a large number of white flowers, which are followed by small ovoid orange fruits. When in bloom this shrub is a very striking object."

55944. *ROSA* sp.

"(No. 6126. August 30, 1922.) Seeds of a shrub 8 to 10 feet high, which grows in a limestone meadow called Saba, in the Likiang Snow Range, at an altitude of 11,000 feet. The flowers are either cream colored or red and the smooth fruits a dull red-brown."

55945. *ROSA* sp.

"(No. 6435. September 7, 1922.) Seeds of a lovely slender spineless shrub 8 to 10 feet in height, which grows in a deep gorge leading up to the main peak of the Likiang Snow Range, at an altitude of 6,000 feet, among spruce and fir forests and rhododendrons. The soil is usually much impregnated with lime. The shrub is very ornamental both in flower and in fruit. The single flowers are a deep rose red, and the yellow and scarlet shining fruits are long pear shaped."

55946. *ROSA* sp.

"(No. 6436. September 7, 1922.) Seeds of a slender, very attractive shrub which grows with the preceding No. 6435 [S. P. I. No. 55945] in the limestone gorge leading to the main peak of the Likiang Snow Range, at an altitude of 11,500 to 12,000 feet. The stems and branches are red and spineless except on the young shoots. The flowers are cream colored, and the crimson to carmine fruits are covered with a few soft bristles, are pear shaped, and about an inch in length."

55947. *SCILLA* sp. Liliaceae.

"(No. 6169. Kiuh. August, 1922.) Bulbs of a liliaceous plant found growing at an altitude of 7,000 feet. It bears spikes of small rich-purple flowers."

55948 and 55949. *VACCINIUM* spp. Vacciniaceae.

55948. *VACCINIUM DELAVAYI* Franch.

"(No. 6168. August 20, 1922.) Seeds of a very compact hardy shrub which grows on the Tsangshan Range at an altitude of about 8,000 to 9,000 feet. The edible berries, the size of small peas, are purplish black."

55949. *VACCINIUM* sp.

"(No. 6437. September, 1922.) Seeds of a shrub 2 feet high, which is very common from the Black River Valley to this locality (Likiang Snow Range), where it grows under pine trees. The flowers are a beautiful pink, and the edible dark-purple fruits, about the size of peas, are quite sweet."



A SHOWY ALPINE PLANT FROM WESTERN CHINA (*INCARVILLEA GRANDIFLORA BREVIPES* SPRAGUE; S. P. I. No. 55934)

For many years the typical form of this relative of our trumpet vine has been known to horticulturists, but the variety here shown was discovered only a few years ago in western China, whence it was sent to Europe. It is a rather small perennial, a foot or two in height, and differs from the type in having large brilliant-red flowers with canary-yellow markings in the throat, as well as in having more compact flower clusters. The plant illustrated was growing in pure limestone drift on the lower slopes of the Likiang Snow Range, Yunnan, China, at an altitude of 10,500 feet. (Photographed by J. F. Rock, June 2, 1922; P30260FE)



A CHESTNUT FROM THE MOUNTAINS OF SOUTHWESTERN CHINA (*CAS-
TANEA* SP.: S. P. I. No. 56380)

In recent years the common chestnut, formerly a conspicuous feature of forests and road-sides in the northeastern United States, has almost disappeared, owing to the ravages of chestnut blight (*Ectotelia parasitica*), a disease for which no remedy has been discovered. In an effort to obtain blight-resistant chestnuts the Department of Agriculture has introduced from China a number of interesting species. The one here shown is a large tree, about 100 feet tall, with a trunk 3 feet in diameter. The edible nuts are small, but J. F. Rock, through whom the introduction has been made, reports them to be of sweet flavor. (Photographed by J. F. Rock, near Shiao-shuichi, Yunnan, China, September 29, 1922; P30306FS)

55926 to 55955—Continued.

55950 to 55952. *VIBURNUM* spp. Caprifoliaceæ.55950. *VIBURNUM* sp.

"(No. 6061. September 7, 1922.) Seeds of a shrub 5 to 8 feet high, which is the most common *Viburnum* on the Likiang Plain; it grows almost everywhere, but especially along streams among limestone boulders and on the lower slopes of the Likiang Snow Range at an altitude of about 10,000 feet. In early spring appear the cymes of white flowers, followed by the drooping clusters of rich red-crimson fruits. These fruits are quite acid, but are used for jams and jellies, giving the jelly a rich-red color. When in fruit the plant is very ornamental; the fruits, which ripen after the first frost, remain firm for two months."

55951. *VIBURNUM* sp.

"(No. 6160. Talifu. August 20, 1922.) Seeds of an ornamental shrub 5 to 6 feet high, with drooping branches, which grows at an altitude of 10,000 feet on the Tsangshan Range. The flowers are white to cream colored and the fruits black when ripe."

55952. *VIBURNUM* sp.

"(No. 6161. Ningai. August 10, 1922.) Seeds of an ornamental shrub 4 feet high, found growing on limestone rocks. The flowers are white with a pinkish tinge, and the fruits are black."

55953. *VITIS* sp. Vitaceæ.

Grape.

"(No. 6286. September 7, 1922.) Seeds of a very hardy wild grape found covering rosebushes along streams among limestone boulders in the northern end of the Likiang Snow Range at an altitude of 10,000 feet. The leaves are small, thick, and deeply three lobed. The vine is a prolific bearer. The small dull-purple fruits, a little larger than peas, with large seeds, are borne in racemes 3 to 4 inches long and are very sweet; with no acid taste."

55954. (Undetermined.)

"(No. 6164. August 10, 1922.) Seeds of a tree 30 to 40 feet high, with a trunk 3 to 4 feet in diameter, which grows in deep gulches in the Yangpi Mountains, near Talifu, at an altitude of 10,000 feet. The leaves and fruit resemble those of a *Ziziphus*."

55955. *CORNUS* sp. Cornaceæ.

"(September 3, 1922.) Seeds of an ornamental tree about 25 feet high, which grows in the Peshwe Valley, north of the Likiang Plain, at an altitude of 10,000 feet. The leaves are bright green above, white beneath, and the cream-colored flowers are in large cymes. The fruits are purplish black and very ornamental."

55956 to 55963.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received November 4, 1922. Quoted notes by Mr. Rock.

55956. *LONICERA XEROCALYX* Diels. Caprifoliaceæ.

Honeysuckle.

"(No. 5939. August 27, 1922.) A rare shrub 15 to 20 feet high, which grows at an altitude of 12,000 feet on an alpine meadow known to the Mosos as 'Ma hoang pa tze' (leech meadow). The shrub has horizontal branches, narrow leaves of a rich green, and large rich golden yellow flowers, which appear in May and June. It is an exceedingly handsome species. The small fruits are a tomato red."

55957. *MECONOPSIS INTEGRIFOLIA* (Maxim.) Franch. Papaveraceæ.

"(Nos. 3358, 3385, 6114. August 27, 1922.) A fine alpine plant 2 feet or more in height, found rather commonly at an altitude of 14,000

as the plant grows older, usually set at a rather acute angle; leaves 2 to 4 inches long, light green above, grayish beneath, one edge serrate, the other smooth; sheaths deciduous, marked with purplish spots and blotches.

"A handsome ornamental form, fairly hardy, and grown generally in public gardens throughout the world. This was one of the earliest introduced forms in California and is found there in many gardens. It is said to be quite drought resistant and with a little protection will survive the winters as far north as Washington, D. C." (*B. T. Galloway*.)

55976. *ZEA MAYS* L. Poaceæ.

Corn.

From Buenos Aires, Argentina. Presented by D. S. Bullock, Agricultural Commissioner, Bureau of Agricultural Economics. Received November, 28, 1922.

"From Entre Rios, Argentina." (*Bullock*.)

Maíz amargo (bitter corn). A variety of corn said to have been introduced into Argentina from Hungary in 1902, since which date it has become quite popular in some parts of northern Argentina because of its resistance to the attacks of locusts. A characteristic of this variety which distinguishes it from other varieties is its tendency to stool or produce side shoots. Unless planted close, each plant will produce under favorable conditions from 4 to 10 of these shoots. The leaves are often over 3 feet long and sometimes 4 inches wide and the stalks from 6 to 10 feet tall. There are two forms noted in Entre Rios, one with grayish white kernels and one with yellow kernels, the latter having longer ears than the former. Because of the numerous intergradations, however, it is very difficult to obtain typical ears of either form. The growing season of *maíz amargo* is long, sometimes as long as nine months. In Entre Rios it is sown in November. (Adapted from *Report No. 76, D. S. Bullock, Agricultural Commissioner*.)

55977. *ARACHIS HYPOGAEA* L. Fabaceæ.

Peanut.

From Sydney, New South Wales. Seeds presented by G. W. Valder, under-secretary and director, Department of Agriculture. Received November 28, 1922.

"These seeds were originally sent from the United States under the name 'Mammoth.' The Chinese claim that this variety is too large for their purpose." (*Valder*.)

Introduced for the use of specialists in the Department of Agriculture.

55978. *EUGENIA DOMBEYI* (Spreng.) Skeels. Myrtaceæ.

(*E. brasiliensis* Lam.)

Grumichama.

From Hilo, Hawaii. Seeds presented by Bro. Matthias Newell. Received October 23, 1922.

"The grumichama is found both wild and cultivated in southern Brazil, particularly in the States of Parana and Santa Catharina. Elsewhere, with the exception of Hawaii, it is scarcely known.

"The tree, which grows to the same size as the orange, is shapely and attractive in appearance, with ovate-elliptic, glossy deep-green leaves 2 to 3 inches long. The small white flowers are followed by pendent fruits, round or slightly flattened, the size of a cherry and deep crimson in color. The persistent green sepals which crown the apex are a distinguishing characteristic. The skin is thin and delicate, the flesh soft, melting, of a mild subacid flavor suggesting that of a Digarreau cherry. The seeds are round or hemispherical when one or two in number; sometimes there are three or more, in which case the size is reduced and they are angular.

"The rapidity with which the fruits develop is surprising; within a month from the time of flowering they have reached maturity and are falling to the ground. Father Tavares states that all the trees do not ripen their crops at the same time, some blooming later than others and thus extending the fruiting season from November to February (in Brazil). Three varieties are distinguished by him, one with dark-red flesh, another with vermilion, and the third with white. All three are said to be equally good in quality. The fruit is usually eaten fresh, but may also be used to make jams and preserves.

"The grumichama (sometimes *grumizama*, to conform to old Portuguese orthography) has recently been planted in California and Florida. In the latter State it has withstood a temperature of 26° F. without injury, which indicates that it is subtropical, rather than strictly tropical, in character. It prefers a deep sandy loam, but succeeds in Florida on shallow sandy soils. Vaughan MacCaughey says: 'In the Hawaiian Islands it is usually about 20 feet high. It requires considerable moisture for its best development, as do all the *Eugenias* in our flora: the largest crops are borne by plants at the lower levels, up to 300 feet * * * flowering and fruiting continue from July until December, the main crop coming in the fall * * *. The first plants in Hawaii were probably introduced by the Spaniard Don Francisco de Paula Marin, who came to the islands in 1791.' The grumichama is sometimes listed as *Eugenia brasiliensis* Lam. *Stenocalyx brasiliensis* Berg. is another synonym.

"Seedlings are said to commence fruiting when 4 or 5 years old. They grow rather slowly. No one appears to have budded or grafted the species as yet. For its value as an ornamental plant, as well as for its pleasant fruit, the grumichama deserves cultivation throughout the Tropics and Subtropics." (Wilson Popenoe.)

For previous introduction, see S. P. I. No. 54777.

55979 to 55981. MYRCIARIA spp. Myrtaceæ.

From Rio de Janeiro, Brazil. Seeds presented by P. H. Rolfs, director, Escola Superior de Agricultura e Veterinária, Vicosa, Minas Geraes, Brazil. Received December 21, 1922.

55979. MYRCIARIA sp.

Jaboticaba.

The jaboticaba (*Myrciaria cauliflora*) is doing very well in Florida, and these seeds are introduced for testing in that State.

55980. MYRCIARIA sp.

Jaboticatuba.

"The fruits of this variety are much larger than those of the ordinary jaboticaba." (Rolfs.)

55981. MYRCIARIA sp.

Jaboticaba.

The jaboticaba (*Myrciaria cauliflora*), one of the commonest and most popular fruits of the vicinity of Rio de Janeiro, Brazil, now appears to be thriving in southern Florida, and these seeds are introduced for cultural experiments in that State.

55982. GUILIELMA UTILIS Oerst. Phœnicaceæ.

Pejibaye.

(*Bactris utilis* Benth. and Hook.)

From Limon, Costa Rica. Seeds presented by C. P. Chittenden, manager, United Fruit Co. Received November 16, 1922.

"A red-striped variety of pejibaye of very good eating quality." (Chittenden.)

For previous introduction and description, see S. P. I. No. 55807.

55983 to 55992.

From Yunnan, China. Collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received November, 1922. Quoted notes by Mr. Rock.

55983. CASTANEA sp. Fagaceæ.

Chestnut.

"(No. 6256. Yangpi. September 19, 1922.) Seeds of a tall tree 40 feet or more in height, with a trunk 2 feet in diameter, found wild on the southwestern slopes of the Tsangshan Range at altitudes of 8,000 to 9,000 feet. The nuts, very sweet and of delicious flavor, are numerous in the burs, and the strong healthy trees are prolific bearers."

55983 to 55992—Continued.

55984. *CASTANEA* sp. Fagaceæ. Chestnut.

"(No. 6256a. September, 1922.) Seeds of tall trees found wild in the valleys of the Haitung Range, east of the Tali Lake, at an altitude of 8,000 feet. The nuts are larger than those from the mountains near Yangpi, but both are very sweet and delicious in flavor."

55985. *CHAENOMELES* sp. Malaceæ. Chinese quince.

"(Talifu. September 19, 1922.) Seeds of a quince, called in Chinese *Mu kua*, cultivated around Talifu. The tree is 50 to 80 feet tall, with a large trunk. The very aromatic fruits, rich yellow with a reddish tinge, have very firm, hard, yellow flesh."

55986. *COLOCASIA ESCULENTA* (L.) Schott. Araceæ. Dasheen.

"(Talifu. September 22, 1922.) Tubers of a Chinese vegetable called *Yee-tao*, sold in the Talifu market. The plant is grown in dry ground, like corn or wheat, and not flooded. The tubers grow in great numbers around the base of the stem; they are white and mealy and eaten boiled, like potatoes. The flower stalk is about 2 feet long, of a pinkish mauve color, with a slender spathe of the same color, and with cream-colored flowers; the whole is eaten as a vegetable, either fried or boiled."

55987. *CORYLUS* sp. Betulaceæ. Hazelnut.

"(No. 3292. Nguluke. September 11, 1922.) Seeds of a tree 60 to 80 feet in height, with trunks 2 to 3 feet in diameter, found at altitudes of 9,500 to 10,000 feet among limestone boulders near springs at the foot of the Likiang Snow Range. The tree is handsome, with very large leaves, and bears large edible nuts.

55988. *CRATAEGUS PINNATIFIDA* Bunge. Malaceæ. Hawthorn.

"(Talifu. September 20, 1922.) Seeds of a shrub 6 to 8 feet high, obtained from fruits sold in the Talifu market, where they are strung on fiber. These small applelike fruits mature in September. They have large seeds and rather sour flesh and are candied like jujubes. Chinese name *Shan li ko*."

For previous introduction, see S. P. I. No. 55932.

55989. *JUGLANS REGIA* L. Juglandaceæ. Walnut.

"(Yangpi. September, 1922.) Seeds of wild walnut trees 40 to 50 feet in height, with a spread of nearly a hundred feet, found in the mountains at an altitude of 8,000 feet. The nuts are large, thin shelled, and sweet."

For previous introduction, see S. P. I. No. 54790.

55990. *MALUS* sp. Malaceæ. Apple.

"(No. 6558. Chienchuan, September 15, 1922.) Seeds of a wild apple, tree 20 feet high, with stiff spreading branches, found in a dry, hot, rocky location in the Chienchuan Valley north of Talifu. The fruits are a little larger than a pea, glossy as if varnished, bright red on one side and yellow on the other."

55991. *MECONOPSIS INTEGRIFOLIA* (Maxim.) Franch. Papaveraceæ.

"(Likiang. September, 1922.)"

For previous introduction and description, see S. P. I. No. 55957.

55992. *OSTEOMELES SCHWERINAE* C. Schneid. Malaceæ.

"(No. 6554. Langchiung. September 16, 1922.) Seeds of an ornamental, spreading shrub 2 to 3 feet high, found in the Langchiung Mountains at an altitude of 7,500 feet and common in the arid regions north and south of Talifu. It differs considerably from the Pacific species, *Osteomeles anthyllidifolia*; the flowers are pinkish white and very fragrant, and the sweet edible fruits are uniformly dull purple."

For previous introduction, see S. P. I. No. 40033.

55993. FRAXINUS MICRANTHA Lingelsh. Oleaceæ.**Ash.**

From Dehra Dun, India. Seeds presented by R. S. Hole, forest botanist. Received December 21, 1922.

A Himalayan ash with large leathery leaves about 9 inches long and lax terminal panicles of minute flowers. It is very similar to another Himalayan species, *Fraxinus floribunda*, from which it differs in leaf characters and in having a looser panicle. (Adapted from Engler, *Botanische Jahrbücher*, vol. 40, p. 217.)

55994 to 56018.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received November 21, 1922. Quoted notes by Mr. Rock.

55994. PÆONIA DELAVAYI Franch. Ranunculaceæ. Peony.

"(Nguluke. September 12, 1922.)"

For previous introduction and description, see S. P. I. No. 55898.

55995. PRIMULA BULLEYANA Forrest. Primulaceæ. Primrose.

"(Heshwe. September, 1922.) Seeds of a very attractive primula collected three days' journey north of Likiang at an altitude of 9,000 to 11,000 feet. It is not a bog-loving plant but grows in pine forests."

55996. PYRACANTHA sp. Malaceæ. Fire thorn.

"(Likiang. September 11, 1922.) Seeds of a shapely shrub 10 to 15 feet in height, which grows along stream beds in limestone soil throughout the Likiang Plain. It is common all along the road from Talifu to Likiang, and even south of Likiang. When in flower it is very ornamental, but it is especially attractive when loaded with its bright-scarlet fruits from August until winter."

55997. PYRACANTHA sp. Malaceæ. Fire thorn.

"(No. 6527. September 14, 1922.) Seeds of a dense shrub 6 to 8 feet in height, which grows with *Prinsepia utilis* in arid situations in the valley beyond Lashipa, two days' journey south of Likiang. It has bright-yellow berries instead of the scarlet fruits which are so common."

55998 to 56016. PYRUS spp. Malaceæ. Pear.

"All these wild pears, of which I am sending seeds, are used as stock plants; they are not planted, but are so numerous that the Chinese simply cut them down and bud them. The best pears come from the region between Tienwei, Talifu, and Haitung."

55998. PYRUS sp.

"(No. 6503. Lashipa. September 13 and 14, 1922.) A very hardy pear tree 15 to 20 feet high, found on the Lashipa Plain, one day's travel south of Likiang, at an altitude of 10,000 feet. It has very tough branches, small, oval-oblong, crenate, acute leaves, and bears large numbers of fruits which are the size of small marbles, yellow, acrid, and unpalatable. The tree is generally used by the natives as a stock plant. Wherever the tree grows wild they cut the trunk down to 2 feet from the ground and bud cultivated varieties of pears on it. The tree is exceedingly hardy and drought resistant and also can withstand being inundated."

55999. PYRUS sp.

"(No. 6508. Likiang. September 13, 1922.) A tree 20 feet tall, which is wild all over the region north of Talifu; collected near the village of Luchu on the southwest end of the Likiang Plain. The leaves are oblong, dark green with red veins and petioles, glossy above, acute or rounded at the base and apex. The fruits are the size of marbles, yellowish brown and spotted, acrid, and unpalatable. This tree had a cultivated variety budded on it; the lower branches were loaded with the wild fruit, and the main trunk had an unripe pear of the cultivated variety."

55994 to 56018—Continued.

56000. *PYRUS* sp.

"(No. 6509. September 13, 1922.) A wild pear tree 20 feet high, found on the Likiang Plain near the village of Lasadje. The leaves do not have red veins and petioles, and the fruits, which are smaller than a marble, are yellow, spotted, acrid, but perfectly black and sweet when ripe. This is a very good stock plant."

56001. *PYRUS* sp.

"(No. 6511. Lashipa. September 13, 1922.) A wild pear tree 15 to 20 feet high, from dry hillsides at an altitude of 9,000 feet, where it grows with *Pinus sinensis*. The leaves are small, oval-elliptical, with long stems. The small, yellowish brown fruits are the size of marbles."

56002. *PYRUS* sp.

"(No. 6539. September 15, 1922.) A wild pear tree 25 to 30 feet high, found in the hot valley of Nankaochai near Chienchuan Valley, two and one-half days' journey south of Likiang, at an altitude of 7,000 feet. It has long spreading whiplike branches and very numerous brownish yellow fruits the size of marbles, which are black when fully ripe."

56003. *PYRUS* sp.

"(No. 6553. September 15, 1922.) A wild pear tree 40 feet in height, found in arid regions in the mountains west of Tengchuan, two days' journey north of Talifu, at an altitude of 6,500 to 7,000 feet. The branches are long and mostly horizontal. The fruits are much larger than those of the other wild pears, with a rich yellowish brown skin and firm butter-yellow flesh which is acrid and unpalatable, though juicy. This species is quite rare; I have seen only two trees."

56004. *PYRUS* sp.

"(No. 6555. September 15, 1922.) A tree 40 feet high with rambling and ascending branches, found in a dry region of yellow clay or loam on a hillside beyond Tienwei, three days' journey south of Likiang. This species is very rare, only one tree being seen, and is quite distinct from the other wild pears. The long-stemmed solitary fruits, smaller than a coffee berry, were few in number, oblong, and uniformly crimson."

56005. *PYRUS* sp.

"(No. 6556. September 16, 1922.) A wild pear tree 15 to 20 feet high, of very graceful habit and spineless, found in the Langchiung Valley near the Erhyin River, two days' journey north of Talifu. The leaves are bright green on both sides, and the bright yellowish brown fruits, larger than a marble, are juicy but acrid. The Chinese use this as a stock plant."

56006. *PYRUS* sp.

"(No. 6557. Langchiung Valley. September 16, 1922.) A wild pear tree 25 feet high, spineless, with dark-green, crenate, elliptic leaves and round, russet-brown, juicy, acrid fruits the size of small marbles and similar to those of No. 6556 [S. P. I. No. 56005]. The tree is a prolific bearer and is used here as a stock plant."

56007. *PYRUS* sp.

"(No. 6559. September 15, 1922.) A wild pear tree 25 to 30 feet high, with a stout trunk and stiff, spreading branches, found in the dry mountain range south of Chienchuan, three days' journey north of Talifu. The numerous fruits are about half an inch in diameter, greenish brown with lighter spots. A good stock plant."

The following are seeds of domesticated varieties.

56008. *PYRUS* sp.

"(Talifu. September 20, 1922.)"

55994 to 56018—Continued.

56009. *PYRUS* sp.

“(Haitung, east of Tali Lake. September, 1922.)”

56010. *PYRUS* sp.

“(Haitung. September, 1922.)”

56011. *PYRUS* sp.

“(Haitung. September 19, 1922.)”

56012. *PYRUS* sp.

“(Talifu. September 20, 1922.)”

56013. *PYRUS* sp.

“(Tienwei. September 15, 1922.)”

56014. *PYRUS* sp.

“(Tienwei. September 15, 1922.)”

56015. *PYRUS* sp.

“(Tienwei. September 15, 1922.)”

56016. *PYRUS* sp.

“(Tienwei. September 15, 1922.)”

56017. *ROSA* sp. Rosaceæ.

Rose.

“(No. 6504. September 14, 1922.) Seeds of a spreading shrub or climber with huge rambling branches, 25 feet high with a spread of 30 feet or more, found growing wild, with *Rosa banksiae*, all over the Lashipa Plain, one day's trip south of Likiang. The flowers when first opened are yellow, becoming cream colored and the size of a half dollar. The orange-red fruits are borne in large ample panicles. The shrub is very ornamental in flower and in fruit.”

56018. *STYRAX LANGKONGENSIS* W. W. Smith. *Styracaceæ*.

“(No. 3198. Langchiung. September 18, 1922.) Seeds of an ornamental shrub 1 to 2 feet tall, which grows in the arid region between Langchiung and Shapi, at an altitude of 7,500 feet. The flowers are large, white, and drooping, with rich reddish brown calyxes.”

56019. *PRIMULA CHRYSOPA* Balf. f. and Forrest. *Primulaceæ*.

Primrose.

From Ness, Neston, England. Seeds presented by A. K. Bulley. Received November 22, 1922.

“Come over and see *Primula chrysopa* next spring. It's a thing to say your prayers to.” (Bulley.)

A tufted perennial marsh-loving primrose from the Province of Yunnan, China, where it grows in moist stony alpine meadows. It has oblong, bright-green, somewhat fleshy, long-stemmed leaves and very attractive fragrant flowers borne in two to four flowered umbels on the summit of the slender scape. The calyx is green or purplish and the oblique corolla pale lilac with a golden eye. The entire plant is more or less covered with a white mealy powder. (Adapted from *Transactions of the Botanical Society of Edinburgh*, vol. 27, p. 277.)

56020. *GUILIELMA UTILIS* Oerst. *Phenicaceæ*.

Pejibaye.

(Bactric utilis Benth. and Hook.)

From San Jose, Costa Rica. Seeds purchased through Otón Jiménez. Received December 19, 1922.

A shipment of seeds of the pejibaye. For an extended account of this interesting food palm, see the *Journal of Heredity*, vol. 12, pp. 154-166, April, 1921.

For previous introduction, see S. P. I. No. 55982.

56021. ESCALLONIA PHILIPPIANA (Engler) Masters. Escalloniaceæ.

From Exeter, England. Plants purchased from Robert Veitch & Son, The Royal Nursery. Received November 25, 1922.

This ornamental shrub, native to Chile, is the hardiest of all the Escallonias, and unlike the other species is deciduous. It forms a spreading shrub with gracefully arching branches and has small dark-green leaves which serve admirably as a background for the pretty star-shaped white flowers. (Adapted from *Gardening Illustrated*, vol. 38, p. 501.)

**56022. WARSZEWICZIA COCCINEA (Vahl) Klotzsch. Rubiaceæ.
Scarlet plume.**

From Gamboa, Canal Zone. Seeds presented by F. Marti. Received November 28, 1922.

"This is a remarkable ornamental tree; I first saw it on the banks of Gatun Lake at Rio Suelo. At a distance its racemes, over 2 feet long, with their brilliant-scarlet enlarged sepals, produced a startling splash of color against the dark-green foliage. The color is as vividly scarlet as the autumn colors of the sour gum, the sorrel tree, or some species of Japanese maple. The colored 'leaves' are in reality enlarged sepals. Only one flower in each cluster of flowers on the raceme has an enlarged sepal. Though the flowers themselves are not over a quarter of an inch in diameter, the enlarged sepals are often 2½ inches long. The fact that this tree blooms in summer, the wet season, whereas most of the showy flowering trees of the Tropics bloom in the dry season, would seem to make this an unusually valuable ornamental tree for tropical regions. It is certainly worthy of a place in every collection of tropical trees." (*David Fairchild*.)

For previous introduction, see S. P. I. No. 54297.

**56023. FRAGARIA CHILOENSIS (L.) Duchesne. Rosaceæ.
Chilean strawberry.**

From Guayaquil, Ecuador. Seeds presented by Dr. F. W. Goding, American consul general. Received December 7, 1922.

"These seeds were obtained at Guachi, near Ambato. While the fruit of the Chilean strawberry is inferior in flavor to that of our best cultivated strawberries, it is remarkable for its excellent shipping and keeping qualities; and it seems that varieties might be produced by selection which would merit cultivation on a commercial scale.

"The berry is much used for canning and preserving. It is also eaten fresh. It is a curious circumstance that this species of strawberry, whose fruits are commonly an inch to an inch and a half long, should be called *frutilla* (little fruit) in Chile, Peru, and Ecuador, while the much smaller fruit of *Fragaria vesca*, rarely over one-half an inch long, is termed *fresa*, or strawberry. This last-named species is cultivated commercially at Quillota, Chile, whence the fruit, which ripens earlier than that of *F. chilensis*, is sent to the markets of Santiago.

"As far as I can ascertain by careful examination of the plants and fruits, the *frutillas* of Chile, Peru, and Ecuador are the same species. Neither in Peru nor in Chile, however, do the plants bear all through the year as they do on the sandy plains near Ambato, Ecuador. I imagine the difference in climatic conditions is the cause of this; on the Equator there are no well-defined seasons, and the plants remain active throughout the year, while in Chile the seasons are fairly well defined and vegetative activity ceases during a part of each year, as with us. The ripening season of *F. chilensis* in the highlands of southern Peru and central Chile seems to extend, approximately, from the latter part of October to January." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 54630.

56024. CORNUS OFFICINALIS Sieb. and Zucc. Cornaceæ.

From Rochester, N. Y. Seeds presented by John Dunbar, Assistant Superintendent of Parks. Received December 8, 1922.

"This resembles *Cornus mas* when in flower, but the fruits ripen in October and November and are quite handsome." (*Dunbar*.)

This species, which is very closely allied to *C. mas*, is native to Chosen and is occasionally seen in cultivation. Like *C. mas*, it has yellow flowers and red fruits, but differs in having conspicuous patches of dense, rust-colored down on the lower surfaces of the leaves and also is somewhat coarser in habit.

56025. CUCURBITA MOSCHATA Duchesne. Cucurbitaceæ. Squash.

From Libia, North Africa. Seeds presented by Dr. E. O. Fenzi. Received December 8, 1922.

"Seeds of a local variety which weighs about 50 kilos (110 pounds). It is very popular with the natives, and with good reason, for the flesh is more intensely colored, sweeter, and of better flavor than any other variety I can remember having seen either in Italy or California." (*Fenzi*.)

56026. ORYZA SATIVA L. Poaceæ. Rice.

From Samarlkota, India. Seeds presented by Dr. R. H. Forbes, Kulikoro, French West Africa. Received June 13, 1922. Numbered December, 1922.

"Rice from Samarlkota, Madras Presidency, India." (*Forbes*.)

Introduced for department specialists engaged in rice-breeding experiments.

56027. RICINUS COMMUNIS L. Euphorbiaceæ. Castor-bean.

From Albion, Brisbane, Queensland. Seeds presented by W. Ewart, secretary, Queensland Acclimatisation Society. Received December 8, 1922.

"*Bowen Hills*. This variety was raised from seeds obtained by the Queensland Acclimatisation Society from Bowen Hills and grown at Lawnton, Queensland, where it is considered the best of 60 varieties there cultivated. The plant is a vigorous grower, forms numerous large seed heads, and is remarkably free from disease and insect pests." (*Ewart*.)

56028. DAVIDSONIA PRURIENS F. Muell. Cunoniaceæ.

From Sydney, New South Wales. Seeds presented by J. H. Maiden, director and Government botanist, Botanic Gardens, Sydney, at the request of C. T. White, Government botanist, Brisbane. Received November 14, 1922.

Variety *jerseyana*. This variety differs from the northern Queensland form in being smaller in all its parts.

The northern form is a tree 30 or 40 feet high, of graceful erect habit, with drooping compound leaves 18 inches or more long; the terminal leaflet is often a foot in length. The reddish flowers are in clusters a foot or more long, and the fruit is an oval juicy drupelike berry the size of a goose egg, covered with a thin coating of irritating hairs; these, however, are easily removed by rubbing with a rough cloth, and then is exposed the smooth plumlike skin of the fruit. The soft, fleshy, rich-purple pulp, sharply acid in flavor, incloses a few small flat seeds. This fruit, which ripens in July in Queensland, is largely used by the settlers for making into jam and jelly. (Adapted from *Queensland Agricultural Journal*, vol. 2, p. 471, and *Bailey, Queensland Flora*, pt. 2, p. 538.)

56029. PHLEUM PRATENSE L. Poaceæ. Timothy.

From Ayr, Ayrshire, Scotland. Seeds purchased from McGill & Smith. Received December 8, 1922.

Locally grown seed introduced for department specialists engaged in timothy-breeding investigations.

56030. CUCUMIS SATIVUS L. Cucurbitaceæ. Cucumber.

From Balavaini, Marovo Lagoon, Solomon Islands. Seeds presented by H. T. Fairbrother. Received December 18, 1922.

"Seeds of our native cucumber, which is far ahead of any other I have ever tasted. It is of medium size, with a smooth skin and an incomparable flavor." (*Fairbrother*.)

56031. CHRYSOPHYLLUM MAGALISMONTANA Sond. Sapotaceæ.

From Pretoria, Transvaal. Seeds presented by I. D. Pole Evans, chief, Division of Botany. Received December 18, 1922.

An ornamental evergreen shrub or small tree which is common on stony outcrops in the Transvaal on frostless ridges at an altitude of 6,000 feet near Johannesburg and also in the "Middle Veld" at altitudes below 4,000 feet. The fruits, up to an inch in diameter, are agreeably acidulous and most refreshing in hot weather; they are used by the white colonists for making preserves and jelly. The natives call the tree *Stam-vruchte*, because the flowers and fruits are borne on very short stalks on the stem and main branches. The tree tolerates great heat and drought. (Adapted from note of J. Burtt Davy under S. P. I. No. 19384.)

For previous introduction, see S. P. I. No. 19384.

56032 to 56057. TRITICUM AESTIVUM L. Poaceæ.

(*T. vulgare* Vill.)

Common wheat.

From Tulun, Irkutsk, Russia. Seeds presented by Victor Pissareff, director of the Agricultural Experiment Station. Received December 9, 1922.

"These varieties of winter wheat have endured the winter at Tulun, which is considered beyond the northern limit of wheat growing." (Pissareff.)

56032. Tulun 365.

56045. Tulun 389.

56033. Tulun 366.

56046. Tulun 390.

56034. Tulun 367.

56047. Tulun 392.

56035. Tulun 370.

56048. Tulun 398.

56036. Tulun 373.

56049. Tulun 403.

56037. Tulun 375.

56050. Tulun 408.

56038. Tulun 377.

56051. Tulun 405.

56039. Tulun 379.

56052. Tulun 416.

56040. Tulun 380.

56053. Tulun 418.

56041. Tulun 382.

56054. Tulun 425.

56042. Tulun 383.

56055. Tulun 456.

56043. Tulun 384.

56056. Tulun 457.

56044. Tulun 385.

56057. Tulun 458.

56058 and 56059. CITRUS spp. Rutaceæ.

From Swatow, China. Plants presented by Rev. A. H. Page. Received December 21, 1922. Quoted notes by Mr. Page.

"These fruits, among the very best of the citrus fruits of China, grow chiefly in the low delta region crossed by the Tropic of Cancer, where there is a slight frost perhaps once in 10 years, during the period when the trees are dormant."

56058. CITRUS NOBILIS DELICIOSA (Tess.) Swingle. Mandarin orange.

"A tangerine which is as large and fully as sweet as the navel orange."

For previous introduction, see S. P. I. No. 45938.

56059. CITRUS sp.

"The 'soft orange,' which, like the tangerine, is easily peeled when thoroughly ripe. It will keep a long time without ice and becomes very sweet. It is only of medium size."

56060 to 56063. RIBES spp. Grossulariaceæ.

From Elstree, Herts, England. Presented by Hon. Vicary Gibbs. Received December 18, 1922.

56060. RIBES HENRYI Franch.

Plant. An unarmed evergreen shrub, about 3 feet high, native to the vicinity of Szechwan in Hupeh, China. The oval dark-green leaves are

56060 to 56063—Continued.

up to 4 inches in length, and the small oval-oblong berries are crowned by the persistent calyx. This species bears considerable resemblance to *Ribes laurifolium* Jancz. (Adapted from *Bulletin Mensuel de la Société Linnéenne Paris, new series*, No. 9, p. 87, and *Gardeners' Chronicle*, 3d ser., vol. 71, p. 213.)

56061. *RIBES LAURIFOLIUM* Jancz.

Plant. A very attractive flowering currant first discovered in Szechwan, western China, at an altitude of 7,000 feet, where it grows as an evergreen unarmed shrub up to 6 feet in height; not common. The rich-green oval leaves are coarsely toothed and up to 5 inches in length. The greenish yellow flowers are borne in pendent clusters over 2 inches long, appearing in February and March. (Adapted from *The Garden*, vol. 79, p. 171.)

56062. *RIBES LONGERACEMOSUM* Franch.

Cuttings. "This species, found in the mountains of western China, bears large black fruits of good flavor, in racemes a foot and a half long." (*E. H. Wilson, Naturalist in Western China*, vol. 2, p. 31.)

For previous introduction, see S. P. I. No. 40459.

56063. *RIBES MAXIMOWICZII* Batal.

Cuttings. A deciduous shrub 6 to 9 feet high, first found by the Russian traveler Potanin, in Kansu, in 1885, but introduced into England several years later from western China. The leaves, in threes or fives, are 2 to 5 inches wide, glossy green above and pale downy beneath. The flowers, borne in long slender clusters in May, are made conspicuous by the dull lurid-red calyxes. The fruits, which are thickly covered with stiff glandular bristles, are, according to E. H. Wilson, sometimes orange and sometimes red, possibly at different stages of development. (Adapted from *Gardeners' Chronicle*, 3d ser., vol. 59, p. 273.)

For previous introduction, see S. P. I. No. 40410.

56064 to 56066. *SACCHARUM OFFICINARUM* L. Poaceæ.

Sugar cane.

From Fajardo, Porto Rico. Seeds presented by R. A. Veve, Experiment Station, Fajardo Sugar Co. Received December 28, 1922. Quoted notes by Mr. Veve.

"These three varieties are very good in our district, and their seed germinates very well. Although all three of them are susceptible to mosaic disease, they are more resistant than the native varieties *Cristalina* and *Rayada*, which are here considered as standards."

56064. *D109*.

For previous introduction, see S. P. I. No. 49262.

56065. *D433*.

For previous introduction, see S. P. I. No. 49264.

56066. *F. C. 306*. "This is a local variety, a seedling of D433."56067. *PANGIUM EDULE* Reinw. Flacourtiaceæ.

Pangi.

From Manila, Philippine Islands. Seeds presented by A. Hernandez, director, Bureau of Agriculture. Received December 13, 1922.

"Seeds of pangi (*Pangium edule*) obtained from the barrio of Panagan, municipality of Lagonoy, Camarines Sur. Pangi seeds yield about 50 per cent of pitjoeng or samaun oil having the following constants (see Bureau of Forestry, Manila, Philippine Islands, Bulletin No. 20, p. 159):

Specific gravity	0.937
Saponification value	178-183
Iodin value	89.94
Titer test of fatty acids	44.4"

—(Hernandez.)

"I have just eaten this fruit for the first time; it is quite similar to the *marang* (*Artocarpus odoratissima* Blanco) in flavor, being very sweet and rich. The flesh is rather scant and the seeds large, but some day we may discover a seedless one and then we shall have a real feast. The fruit is so large that one (seedless) would be enough for three to five people." (*P. J. Wester.*)

A Philippine tree which reaches a height of 25 meters (82 feet), with very large, smooth, pointed leaves and yellowish green flowers. The oval brown fruit is over 6 inches long and contains several seeds imbedded in a yellowish, edible pulp. The fresh seeds are poisonous, but steeping in water makes them edible. (Adapted from *Brown, Wild Food Plants of the Philippines*, p. 126.)

56068. DENDROCALAMUS SIKKIMENSIS Gamble. Poaceæ. Bamboo.

From Sibpur, near Calcutta, India. Seeds presented by C. C. Calder, curator, Royal Botanic Garden. Received December 11, 1922.

"This bamboo flowered profusely this year in the Darjiling District." (*Calder.*)

For previous introduction and description, see S. P. I. No. 55815.

56069 and 56070.

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, Director of the General Experiment Station. Received December 18, 1922.

56069. CITRUS MEDICA L. Rutaceæ.

Citron.

Seeds of a peculiar citron with papayalike fruits from Java.

56070. GARCINIA MANGOSTANA L. Clusiaceæ.

Mangosteen.

These seeds are introduced from Java in the hope of establishing the mangosteen in our tropical dependencies.

For previous introduction and description, see S. P. I. No. 55496.

56071. DIOSCOREA ALATA L. Dioscoreaceæ.

Greater yam.

From Fort Pierce, Fla. Tubers presented by C. S. Steele. Received December 28, 1922.

"This yam is a strain selected from the Hawaiian purple-skinned yam, S. P. I. No. 46768. The purple layer, just beneath the outer skin, was very thin and sharply defined in the selected tuber, and the flesh of the tuber was white and of good quality when cooked. Yams of the purple-skinned type vary considerably with respect to the thickness of the purple layer and also in quality, and it is still to be determined whether this selection will remain constant." (*R. A. Young.*)

56072 to 56074. PHASEOLUS spp. Fabaceæ.

From Santiago de las Vegas, Cuba. Seeds presented by Dr. Mario Calvino, director, Agricultural Experiment Station. Received December 29, 1922. Quoted notes by Doctor Calvino.

56072. PHASEOLUS CALCARATUS Roxb.

Rice bean.

"*Frijol mambi* or *Diablito*. Seeds of this variety were originally sent from Oriente, where the plant grows spontaneously in the thickets. The seeds are small, about the size of a grain of rice, kidney shaped, and dark red. It is a pole bean of rapid growth and is very productive."

56073. PHASEOLUS LUNATUS L.

Lima bean.

"This is a good variety of pole Lima which I imported from Trujillo, Peru."

56074. PHASEOLUS VULGARIS L.

Common bean.

"*Frijol negro*. One of the cultivated varieties of Cuba."

56075 to 56079.

From Santiago de las Vegas, Cuba. Seeds presented by Dr. Mario Calvino, director, Agricultural Experiment Station. Received December 30, 1922. Quoted notes by Doctor Calvino.

56075 and 56076. *PHASEOLUS LUNATUS* L. Fabaceæ. Lima bean.

"The following Lima beans are cultivated in Cuba."

56075. Light-red beans.

56076. Dark-red beans.

56077 to 56079. *VIGNA* spp. Fabaceæ.

56077. *VIGNA CYLINDRICA* (Stickm.) Skeels.

Catjang.

"*Frijol precioso*."

56078 and 56079. *VIGNA SESQUIPEDALIS* (L.) Fruwirth.

Yard-Long bean.

56078. "*Habichuela china negra*."

56079. "*Habichuela china variegata*."

56080 to 56117.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received December 6, 1922. Quoted notes by Mr. Rock.

56080 to 56083. *CASTANEA* spp. Fagaceæ.

Chestnut.

56080. *CASTANEA* sp.

"(No. 6682. September 29, 1922.) A tree 60 to 100 feet tall, with trunk 4 to 5 feet in diameter, and hard, tough dark-brown wood, found at an altitude of 8,200 feet, and very common, four and a half days' journey west of Talifu, beyond a village called Paitoupu and 40 li (12 miles) from Yungping, where it forms dense forests. The leaves are large, broadly ovate, coarsely serrate, glossy above and silvery beneath. The burs are borne in spikes, with thick, green, short spines in spiral ridges, similar to those of *Castanea armata*. The nuts are very small, something like those of the chinquapin, and very sweet and palatable. The natives cut the tree for firewood a foot above the ground; it ratoons very freely, sending forth shoots from the old stump. I have not seen any evidence of disease in any of the trees of this species, although I have examined many trees. The timber is excellent, being used for building purposes."

For an illustration of the trunk of this chestnut, see Plate IV.

56081. *CASTANEA* sp.

"(No. 6683. September 30, 1922.) A tree 50 to 60 feet high, with a straight trunk 1 to 2½ feet in diameter and ascending branches, found in yellow clay loam in forests 20 li (6 miles) from Paitoupu, four and a half days' journey west of Talifu, at an altitude of 8,200 feet. The dark-green leathery leaves are very handsome, and the numerous burs, larger than those of the following [S. P. I. No. 56082], are borne in lateral spikes. The nuts are very sweet and delicious. These trees are perfectly healthy. Trees of this species are also found on the western slopes of the Tsangshan Range, but their fruits are all attacked by worms."

56082. *CASTANEA* sp.

"(No. 6683a. September 30, 1922.) A tree of the same size as the preceding [S. P. I. No. 56081] and with leaves similar but a paler green, found in the mountains 20 li (6 miles) from Paitoupu near a hamlet called Shiao-shui. The burs are smaller, with the spines arranged differently, and shorter and sharper. The nuts are the same size."

56080 to 56117—Continued.

56083. *CASTANEA* sp.

"(No. 6686. September 28, 1922.) This is the same as No. 6682 [S. P. I. No. 56080], but was collected near Taipingpu, three days' journey west of Talifu. The seeds were gathered from young shoots, for the trees had all been cut down."

56084. *CATALPA DUCLOUXII* Dode. Bignoniaceæ.

"(Nos. 3097, 3217.) A tree 80 feet tall, with a straight trunk 3 to 4 feet in diameter, found in the Likang Plain at an altitude of 8,800 feet: in large groves also south of Talifu on the Menghau Ting Plain. The pinkish lilac flowers are borne in large full panicles and make the tree very ornamental. It is a very valuable timber tree, and the wood is not attacked by insects. Seeds of this tree are exported from Tengyueh to other parts of Yunnan, Tengyueh being the center of distribution. The Chinese name is *Chun nin shu*."

For previous introduction, see S. P. I. No. 55931.

56085. *CORNUS CAPITATA* Wall. Cornaceæ. Bentham's cornel.

"(No. 6684. September 29, 1922.) A tree 30 feet or more in height with a trunk a foot or more in diameter, or at times only shrubby, found beyond Paitoupu, two days' journey west of Yangpi, at an altitude of 8,000 feet. The fruits, larger than a large strawberry and of the same shape and color, have sweet yellow flesh and are much relished; they are often sold in the markets."

56086. *CORYLUS* sp. Betulaceæ. Filbert.

"(No. 6635. September 24, 1922.) A shrub 6 to 10 feet high, with large hairy leaves, found among mica boulders at the foot of the steep hills rising behind Kinngintui, a village not far from Yangpi, at an altitude of 6,000 feet. At this time of the year the weather here is hot. The fruits, of fairly large size, are sweet and of a flavor like that of hazelnuts. This shrub is worthy of cultivation for the nuts."

56087. *CRATAEGUS PINNATIFIDA* Bunge. Malaceæ. Hawthorn.

"(No. 6685. September 27, 1922.) A tree 30 to 35 feet high, with straight ascending branches, found wild between Yangpi and Taipingpu, four days' journey west of Talifu. The large-seeded yellowish red fruits, the size of crab apples and ridged, are borne in large clusters at the ends of the branches; they are candied by the natives."

For previous introduction, see S. P. I. No. 55988.

56088 to 56090. *DIOSPYROS* spp. Diospyraceæ. Persimmon.56088. *DIOSPYROS LOTUS* L.

"(No. 6693. September 25, 1922.) A wild persimmon found near watercourses on the hills back of Kinngintui, 20 li (6 miles) east of Yangpi, at an altitude of 6,000 feet. The fruits are the size of a large green olive."

56089. *DIOSPYROS LOTUS* L.

"(No. 6705. October, 1922.) A spreading tree 50 feet high with a drooping crown, found wild on the Salwin watershed, western slope of the Salwin Valley above Homushu, at an altitude of 7,000 feet. The tree was loaded with the small yellowish green persimmons, less than an inch in diameter."

56090. *DIOSPYROS* sp.

"(October 3, 1922.) A tree 35 feet high with a large spreading crown, which grows half wild on the hillsides near Shayang, two days' journey east of Yungchang. The edible persimmons, the size of a tennis ball, are orange-yellow and are very sweet and delicious."

56091. *JUGLANS REGIA* L. Juglandaceæ. Walnut.

"(No. 6694. September 27, 1922.) A very large tree with a huge crown, which is very numerous on the hills and slopes near Taipingpu."

56080 to 56117—Continued.

at an altitude of about 8,300 feet. The nuts are very thick shelled and difficult to break and are gathered by the natives for the sake of the oil. There are several varieties which vary in the shape of the nuts, some being oblong, some ovoid, and some globular; all are thick shelled."

56092 to 56099. *MALUS* spp. Malaceae. Apple.

56092. *MALUS* sp.

"(No. 6687. September 28, 1922.) A large tree with a large crown of ascending branches, found beyond Taipingpu, three days' journey west of Talifu, at an altitude of 8,200 feet. The yellowish green fruits are 2 inches in diameter, fragrant but sour."

56093. *MALUS* sp.

"(No. 6688. September 27, 1922.) A wild apple tree from the Yangpi Mountains, two days' journey from Talifu, where it grows at an altitude of 7,800 feet. The fruits are bright red and yellow, with rather numerous seeds."

56094. *MALUS* sp.

"(No. 6690. September 27, 1922.) A tree 30 feet in height with a trunk 2 to 2½ feet in diameter and straight ascending branches, found wild in red clayey soil all over the ranges between Yangpi and Taipingpu, at an altitude of 8,000 feet. The oblong leaves are dark green above and pale beneath; the very numerous fruits, the size of small apples, are yellowish with a bright reddish tinge, with firm, very fragrant but sour flesh. The tree is exceedingly hardy and free from disease and occurs here where nothing else will grow except the hardy Yunnan pine (*Pinus sinensis*)."

56095. *MALUS* sp.

"(No. 6691. September, 1922.) A peculiar tree with long spreading, drooping branches like a willow, found only along watercourses between Yangpi and Taipingpu, at an altitude of 8,300 feet. The tree was loaded with small oblong fruits less than an inch long and half an inch in diameter, with dull carmine-red skin and very juicy sour flesh. I did not see this species elsewhere."

56096. *MALUS* sp.

"(No. 6696. September 30, 1922.) A fine hardy tree 15 to 20 feet high, which grows wild with *Castanea* sp., in the hills between Huanglienpu and Chutung. The yellowish red fruits are 2 inches in diameter."

56097. *MALUS* sp.

"(No. 6696. September, 1922.) Seeds of the preceding [S. P. I. No. 56096] collected beyond Shiashuichi. The flowers are red."

56098. *MALUS* sp.

"(No. 6698. October 4, 1922.) A tree 20 feet tall which grows wild in the mountains beyond Pingpo, on top of the western ridge of the Mekong Valley, at an altitude of 8,000 feet. The tree was loaded with thousands of dark-crimson, oblong, mealy fruits the size of wild cherries; in fact, the tree could be mistaken at a short distance for a cherry tree. It is a prolific bearer and grows in clay loam mixed with slate."

56099. *MALUS* sp.

"(No. 6713. October, 1922.) A wild apple tree 20 to 30 feet high, sent to me through the kindness of Rev. Mr. Fullerton, of the Szemao Mission; it grows in the mountains near Szemao at an altitude of 5,000 feet or more. The globose fruits are little more than an inch in diameter and are called *toi*."

56080 to 56117—Continued.

56100. (Undetermined.)

"(No. 6689. September 27, 1922.) A tree 30 feet in height, found in the forests 20 li (6 miles) from Paitoupi, on steep hillsides with *Gastanea* spp., at an altitude of 8,100 feet. It is exceedingly ornamental, with its shining dark-green leaves and great masses of papery crimson berries; it excels holly in every respect as a decorative plant."

56101 to 56111. *PYRUS* spp. Malaceæ.

Pear.

56101. *PYRUS* sp.

"(No. 6636. September 24, 1922.) A wild pear tree 15 feet high, which grows in well-drained soil among huge boulders on the steep hillsides back of the temple of Fu Kwe Ssu, back of the village of Kinnqintui, 20 li (6 miles) from Yangpi. The fruits, larger than any of the ordinary wild pears collected (except No. 6553 [S. P. I. No. 56003]), are more pear shaped, with yellowish brown skins and very juicy subacid flesh. This species is very hardy and perfectly free from disease. The region where it grows has a hot, dry spring, a rainy summer, a hot, humid autumn, and a cold winter season of two months."

56102. *PYRUS* sp.

"(No. 6703. October, 1922.) A wild pear tree 25 feet high which grows near Talishao at an altitude of 8,000 feet. The very numerous fruits, the size of crab apples, have yellowish brown skin, yellow flesh, and large seeds."

56103. *PYRUS* sp.

"(No. 6704. October, 1922.) A wild pear tree 30 feet high found growing with the preceding [S. P. I. No. 56102] near Talishao. The tree was loaded with the globular russet-brown fruits, an inch in diameter, with very juicy, sour flesh."

56104. *PYRUS* sp.

"(No. 6711. September, 1922.) A tree 20 to 25 feet high, with spreading whiplike branches, found wild in the mountains between Hochiang and Pingpo, above the Hsiakuan River. The tree was loaded with small oval russet fruits, half an inch in diameter, with sour yellow flesh."

56105 to 56110. Seeds of domesticated varieties.

56105. *PYRUS* sp.56108. *PYRUS* sp.

"(Yungchang, October 5, 1922.)"

"(October 5, 1922.)"

56106. *PYRUS* sp.56109. *PYRUS* sp.

"(Yungchang, October 5, 1922.)"

"(Yangpi. September 26, 1922.)"

56107. *PYRUS* sp.56110. *PYRUS* sp.

"(October 16, 1922.)"

"(Yungchang. October 5, 1922.)"

56111. *PYRUS* sp.

"(October, 1922.) A tree 30 feet high, with ascending whiplike branches, found wild in the valley between Shiasuichi and Chutung, at an altitude of 6,500 feet. The tree was loaded with the small, ovoid, russet-yellow, very juicy fruits and was very ornamental."

56112. *QUERCUS* sp. Fagaceæ.

Oak.

"(No. 6712. September, 1922.) A shrubby oak 10 feet high, which forms dense bushes on the hills beyond Hsiakuan, one day's trip west of Talifu, at an altitude of 6,800 feet. The tree is a heavy bearer, but the acorns are not palatable."

56080 to 56117—Continued.

56113. *ROSA ROXBURGHII* Tratt. Rosaceæ. Rose.

"(No. 6583. September 23, 1922.) A low shrubby rose 2 to 4 feet high, distributed from Talifu to the Hsiakuan Plain, at an altitude of 6,800 feet. It is a very attractive rose, with its large, handsome bright-red buds and large, bright magenta-red flowers. The compressed fig-shaped fruits are an inch in diameter."

56114. *RUBUS* sp. Rosaceæ.

"(No. 6706. October, 1922.) A spineless shrub 8 feet high, with ascending branches, found at an altitude of 8,000 feet on the top of the range separating the Salwin and Shweli watersheds. The leaves, palmately divided into three to five separate leaflets, are prominently ribbed and silvery beneath, and the solitary small fruits are yellowish red and watery. The shrub is very ornamental."

56115. *THEA* sp. Theaceæ.

"(No. 6697. October 2, 1922.) A tree 40 to 50 feet tall, with a trunk over a foot in diameter, found growing in the temple grounds of Yung Kwe Ssu, between Yungping and Shayang, at an altitude of 8,000 feet. The flowers are said to be white and 4 inches across and the fruits as large as a man's fist."

56116. *VIBURNUM* sp. Caprifoliaceæ.

"(No. 6699. October 4, 1922.) A beautiful shrub 5 to 8 feet in height, of spreading habit, found on the ridges beyond the valley of the Mekong, between Pingpo and Pangchiao, at an altitude of 8,000 feet, in a forest composed of *Pinus armandi* and *Thea* sp. The shrub was covered with clusters of small crimson berries which were almost transparent. They are somewhat acid and may be used for making jellies."

56117. *DICHOTOMANTHES TRISTANIAECARPA* Kuntz. Amygdalaceæ.

"(No. 6702. October, 1922.) A spreading shrub 15 feet high, found west of Hoachiao at an altitude of 7,000 feet. It is very ornamental, with large clusters of berries which are red with a yellowish tinge."

56118 to 56127.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received December 12, 1922. Quoted notes by Mr. Rock.

56118. *CASTANEA* sp. Fagaceæ. Chestnut.

"(Kancha. October 15, 1922.) A wild chestnut occurring in the mountains one day's trip north of Tengyueh."

56119. *CASTANEA* sp. Fagaceæ. Chestnut.

"(No. 6683. September, 1922.) Collected at Paitoupu, about 200 feet lower down than the seeds sent previously under the same number [S. P. I. No. 56081], which see for description."

56120. *GAULTHERIA* sp. Ericaceæ.

"(No. 6709. October 9, 1922.) A highly ornamental shrub, 10 to 15 feet tall, with long whiplike drooping branches reaching to the ground, found on the summit of the Salwin Divide at an altitude of 8,000 feet. The leaves are leathery and dark green, and the large white flowers are borne in great masses all along the branches. The fruits are dark purplish black."

56121. *PRUNUS* sp. Amygdalaceæ. Plum.

"(No. 6700. October, 1922.) A tree 20 feet in height, with a spreading crown, which grows wild along brooks in the mountains between Shiao-shuichi and Chutung, at an altitude of 6,000 feet. The small globose, yellow, clingstone plums are little more than an inch in diameter, with firm, rather sour flesh."

56118 to 56127—Continued.

56122 to 56125. *PYRUS* spp. Malaceae.

Pear.

56122. *PYRUS* sp.

"(No. 6701. October, 1922.) A tree 25 feet high, found in clay soil on the mountains between Hoachiao and the temple of Yung Kwe Ssu. Shayang village, at an altitude of 6,000 to 7,000 feet. The fruits of this tree are larger than those previously found north of Talifu. The natives use this tree as a stock plant."

56123. *PYRUS* sp.

"(No. 6708. September, 1922.) A very hardy tree 25 to 30 feet high, growing in hard clay soil in the mountains near Yangpi at an altitude of 7,000 feet. The russet-yellow fruits are the size of small marbles."

56124. *PYRUS* sp.

"(Kiangpienkai. October, 1922.)"

Seeds of a domesticated variety.

56125. *PYRUS* sp.

"(October, 1922.) A wild pear tree 25 feet in height, closely related to the other wild pears of this region, found beyond Yangpi at an altitude of 8,000 feet. The russet fruits are about half an inch in diameter."

56126. *ROSA* sp. Rosaceae.

Rose.

"(No. 6692. September 27, 1922.) A large rambling or climbing shrub with long stout branches, which grows in the pine forest back of Yangpi, two days' journey west of Talifu, at an altitude of 6,000 feet. The flowers are said to be large and whitish cream colored and the fruits deep red to orange."

56127. *ZIZIPHUS* sp. Rhamnaceae.

"(No. 6695. September 27, 1922.) A very hardy tree 20 feet high, with a large, spreading crown, often growing wild in yellow clay soil on the hills back of Yangpi, in company with *Pinus sinensis*, at an altitude of 6,500 feet. The fruits, the size of small olives, are borne in large numbers; they are green with a slight reddish tinge, inedible, with almost no flesh, being mostly skin and stone. The seeds are large, angular, and brown."

56128 to 56141.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received December 19, 1922. Quoted notes by Mr. Rock.

56128 and 56129. *CASTANEA* spp. Fagaceae.

Chestnut.

56128. *CASTANEA* sp.

"(No. 6714. October 21, 1922.) A large tree 70 to 80 feet tall, found in white sandy micaceous soil on slopes in the mountains 30 li (9 miles) north of Manchi, at an altitude of 6,500 feet. The lanceolate leaves, entire or nearly so, are fawn colored beneath. The burs resemble those of *Castanea armata*, but are smaller; the black, shining nuts are quite small. The trees of this species appeared to be free from all disease."

56129. *CASTANEA* sp.

"(No. 6715. October 20, 1922.) A large tree, closely resembling *Castanea armata* except in foliage, found on tops of ridges before descending to the Manchi Valley and above Menglien, one and a half days' journey southeast of Tengyueh. The burs and nuts are as large as those of *C. armata*."

56128 to 56141—Continued.

56130. *CASTANOPSIS HYSTRIX* A. DC.

"(No. 6716. October, 1922.) Collected in the vicinity of Teng-yueh."

56131. *CHAENOMELES* sp. Malaceæ.

Chinese quince.

"(November 1, 1922.) A wild quince collected on the Puerhfu Plain, near Puerhfu, and sent to me by Miss Clara Petersen, a missionary of Puerhfu."

56132. *DIOSPYROS* sp. Diospyraceæ.

Persimmon.

"(No. 2872. Puerhfu. November 1, 1922.) A large tree 60 feet in height, with a huge spreading crown. According to Miss Clara Petersen, who sent me the seeds, the fruits are small and very sweet. This is also a fine shade tree."

56133. *DIOSPYROS* sp. Diospyraceæ.

Persimmon.

"(No. 6717. October 23, 1922.) A wild persimmon tree 20 to 25 feet high, which grows in dense forests between Menglieh and Manchi, at an altitude of 6,000 feet. The very numerous oblong yellow fruits are the size of crab apples and sweet."

56134. *DIOSPYROS* sp. Diospyraceæ.

Persimmon.

"(No. 6719. October, 1922.) A tree 35 feet high, with few ascending branches, found on the summit ridge on the road from Hsiangta to Manchi, four days' journey southeast of Tengyueh, at an altitude of 7,000 feet. The oblong, velvety, rich-yellow fruits are large for a wild species, being 2 inches in diameter, and the very sweet flesh incloses large seeds."

56135. *MALUS* sp. Malaceæ.

Apple.

"(No. 6721. October 30, 1922.) A much-branched tree 35 to 40 feet high, collected in the mountains of the Schweli Basin near Lungling, at an altitude of 6,700 feet. The foliage grows down to the ground, and the lanceolate leaves are dark green above and silvery white beneath. The somewhat ovoid greenish yellow fruits are $2\frac{1}{2}$ inches in diameter, with very fragrant but very sour, firm flesh."

56136. *MALUS* sp. Malaceæ.

Apple.

"(November 1, 1922.) A small, sour, hard apple found wild in the mountains a half day's journey from Puerhfu, at an altitude of about 6,000 feet. These seeds were sent to me by Miss Clara Petersen, missionary, of Puerhfu."

56137 to 56141. *PYRUS* spp. Malaceæ.

Pear.

56137. *PYRUS* sp.

"(November 1, 1922.) A wild pear from the mountains near Puerhfu, where it grows at an altitude of about 6,000 feet. The fruits are globose, brown, and spotted, and of very sweet flavor."

56138. *PYRUS* sp.

"(November 1, 1922.) Collected half a day's journey from Puerhfu, in the mountains. The fruit is large, several inches in diameter, juicy, and contains only one or two seeds."

56139 to 56141. "The following wild pears were collected in the mountains near Puerhfu and sent by Miss Clara Petersen, November 1, 1922."

56139. *PYRUS* sp.56140. *PYRUS* sp.

"A small brown juicy pear."

56141. *PYRUS* sp.

"A small round pear with brown skin and juicy flesh. The tree is large."

56142 to 56144. PYRUS spp. Malaceæ.**Pear.**

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received December 27, 1922. Quoted notes by Mr. Rock.

56142. PYRUS sp.

"(No. 6718. October, 1922.) A wild pear tree 25 to 30 feet in height, with long drooping and ascending central branches, found beyond Menglieh, a day and a half south of Tengyueh. The leaves are oval, broadly heart-shaped, and the globose, yellowish red, spotted fruits, an inch or less in diameter, are closely related to *Pyrus pashia* of southern Yunnan."

56143. PYRUS sp.

"(No. 6720. October, 1922.) A wild pear tree 35 feet high, spreading in habit, with stout trunks and blackish brown bark, found in sandy soil at the summit ridge leading to Mengshi, four days from Tengyueh, at an altitude of 7,000 feet. The leaves, bronze colored to red, are oblong, acuminate at the apex and acute at the base, and the very numerous spherical, yellowish red, spotted fruits are an inch in diameter."

56144. PYRUS sp.

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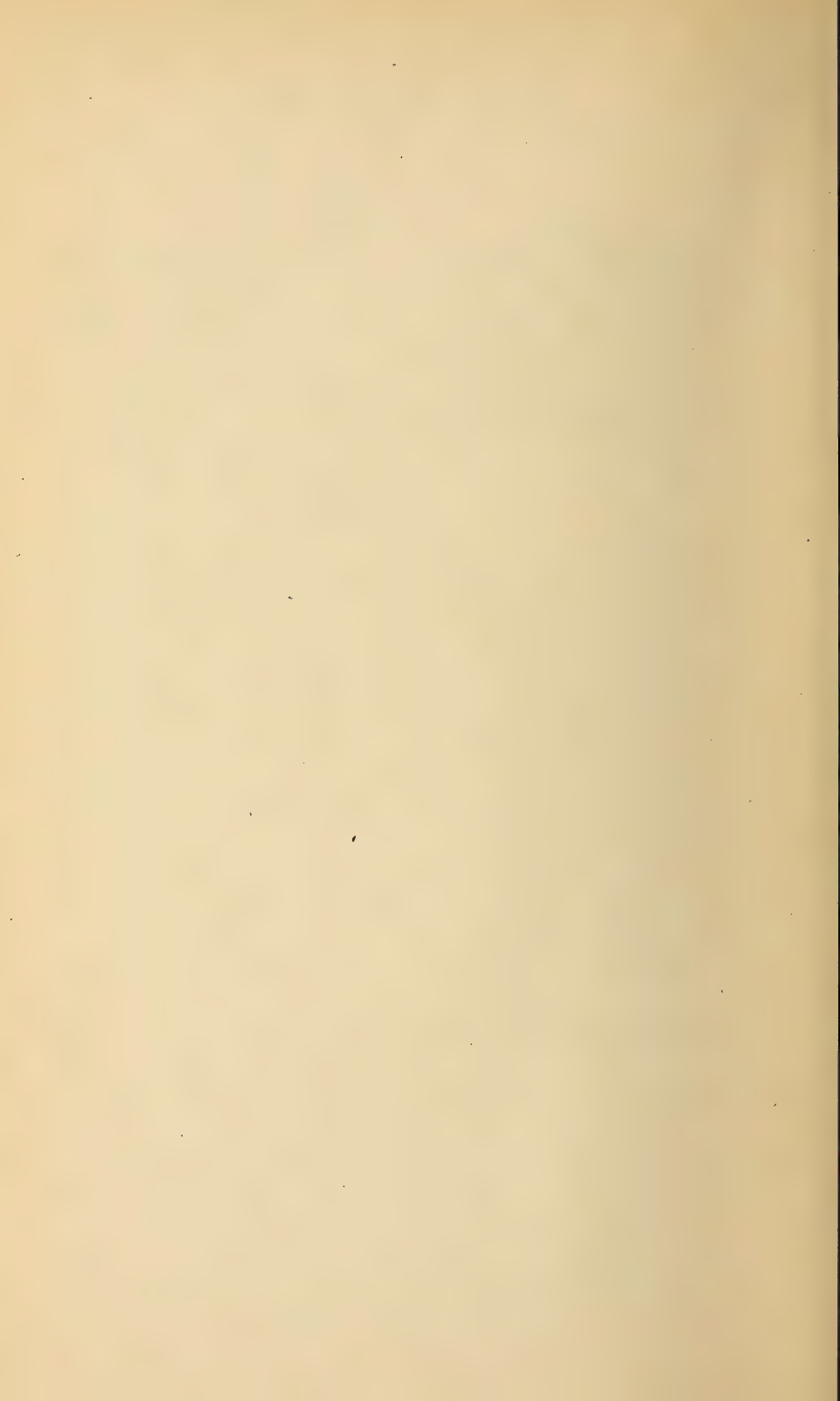
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UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 74



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SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1923 (S. P. I. NOS. 56145 TO 56790)

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INTRODUCTORY STATEMENT

THIS INVENTORY contains a record of some unusually rare plants which have been collected by Agricultural Explorer Joseph F. Rock, whose travels in the western part of the Province of Yunnan, China, have been carried on regardless of the unsettled conditions in that region. He has been obliged not only to take the usual risks of travel at high altitudes on primitive mountain passes where a misstep might mean instant death, run the usual dangers from infectious diseases, like pneumonic plague and dysentery, and bear the severe nervous strain of loneliness, but he also has had to keep out of the way of the roving bands of Tibetans and the Chinese soldiers carrying on an almost continuous conflict along the Tibetan border of Yunnan.

Collecting dried specimens or taking photographs of plants under such conditions requires great skill, an unusual knowledge of oriental languages, and a wide acquaintance with Asiatic plants. When, however, to the collecting of specimens and the taking of photographs is added the gathering and packing of living seeds and plants and getting them alive to America, requiring more than two months by letter post, the nature of the problem which Mr. Rock has had to solve is more correctly stated. Much of the material gathered on the Likiang Snow Range has had to come by special messenger as letter post over mountain passes at 12,000 feet altitude and be plunged into the torrid humidity of the Rangoon post office, to remain in that steaming atmosphere until the post bags were finally unloaded in the dry Italian air of Brindisi. To pack cuttings and seeds of high-mountain plants for such a voyage and have them arrive alive in Washington is a tribute to the attention to detail which Mr. Rock has shown, and it is to be hoped that his efforts will be repaid by the large number of species which have survived the ordeal and will thrive in this country.

By one of those fatalities of things, the trees which were most desired from Yunnan, Yunnan chestnuts and species of the related genus *Castanopsis*, are known to have very short-lived seeds which are particularly hard to transport. Although almost every conceivable method of packing was tried, nearly all the seeds of these genera perished on the way. It is believed, however, that enough lived to establish some of the species in America.

Mr. Rock's material described in this inventory came mainly from the general region of Likiang, which lies more than 8,000 feet above sea level, near the great mountain range around which the Yangtze River meanders on its way to the Pacific, a region of deep gorges and snow-capped mountain peaks.

The oriental persimmon has come into prominence as a promising fruit crop for the South, but as yet horticulturists are not satisfied with the American persimmon, *Diospyros virginiana*, or the Chinese, *D. lotus*, as a stock. Mr. Rock made a collection of undescribed species of *Diospyros* (Nos. 56308 to 56310) which may prove of particular value for this purpose. A tall, spreading species, 50 feet in height, from Tengyueh; another from an altitude of 8,500 feet on the slopes back of Likang; and a species with black fruit the diameter of a half dollar are three forms which, added to those previously collected by him, should provide us with the stock that is needed.

The wild apple of Yunnan (*Malus yunnanensis*, Nos. 56320, 56321, and 56324), which Mr. Rock found among the limestone boulders along the watercourses of the Likang Snow Range at 10,000 feet altitude, is 30 to 40 feet in height, has fruits an inch in diameter borne in large clusters, and, according to Mr. Rock, is one of the handsomest trees in this region. The value of this species in this country for breeding or stock purposes time alone will determine. Mr. Rock's two other species from the same region, as yet unidentified (*Malus* spp., Nos. 56322 and 56323), or his wild species from the dense forests of the Salwin Ridge (No. 56325), or that from the Tengyueh-Sadon Trail (No. 56459), or those from the hills back of Mengka (No. 56460), or the two from Puerhfu (Nos. 56474 and 56475), may, any one of them, prove of more value.

Of wild pears (*Pyrus* spp.) Mr. Rock found some remarkable forms in Yunnan: One (No. 56277) bearing mellow edible fruits 3 to 4 inches in diameter, from 6,000 feet altitude; a second one (No. 56278) growing to be 70 feet tall, with fruits 2½ inches in diameter; a third (No. 56279), from 6,500 feet, which is 30 feet tall and has greenish brown fruits the size of bullets, and a fourth (No. 56280), from 7,000 feet altitude, which grows to be 60 feet in height and has fruits 2½ inches in diameter.

On the Hocking Range, near Likang, Mr. Rock collected seeds of one of the rare genera of Chinese conifers (*Keteleeria* sp., No. 56316). Since only two species of this conifer appear to be known, and as the one which Robert Fortune discovered in China has grown well in Italy, this species of Rock's may thrive in California and Florida.

Two wild olives (*Olea* spp., Nos. 56328 and 56329) which make trees 50 feet in height, from the forests beyond Wolung and the Shweli Valley, should be added to the California collections of olives and their relatives, for some time, perhaps, a plant breeder may find it possible to cross them and get forms for uses now unknown.

Pinus ormandi (No. 56333), one of the tallest of the oriental pines, attaining a height of 90 feet, belongs unfortunately to the 5-leaved pines, which appear to be subject to the white-pine blister rust and may be of doubtful value for forestry purposes. But Rock's wild cherry (*Prunus* sp., No. 56335) from the Likang Snow Range, his remarkable collection of 10 wild pears (*Pyrus* spp., Nos. 56338 to 56347) and 1 (*Pyrus* sp., No. 56491) from Puerhfu, which has already been used as a stock for pears in Yunnan, his 7 species of oak (*Quercus* spp., Nos. 56348 to 56354), his 10 species of Rhododendrons (Nos. 56355 to 56364), his *Rubus lutescens* (No. 56369), his 4 species of Sorbus (Nos. 56373 to 56376), and 7 as yet unclassified viburnums (Nos. 56379 to 56385) will surely interest amateurs and park superintendents in those regions where they will grow.

Corylus colurna has been a pronounced success in the Arnold Arboretum and the Rochester parks, and another tree filbert (*Corylus* sp., No. 56490) that Mr. Rock discovered at 10,000 feet altitude in the Likang Snow Range, growing 50 feet high and from 2 to 3 feet in diameter and producing good-sized edible nuts, can scarcely fail to be a real addition to our parks and may even prove a profitable nut-producing tree.

Whether the giant lily (*Lilium* sp., No. 56778) that Mr. Rock found west of Tengyueh, which grows 15 feet high, will be easier of culture than *Lilium giganteum* remains to be determined, but already the lily breeders of the country are interested in it.

In Great Britain, the Chinese shrub *Photinia serrulata* is considered by Bean as "undoubtedly one of the finest evergreens ever introduced," and Rock's Yunnan species (*Photinia* sp., No. 56779), which he remarks is "one mass of deep orange-red fruits in November," may prove slightly different from this species and better adapted to American conditions.

In addition to the material collected by Mr. Rock, the following new introductions are worthy of special mention:

Aesculus wilsonii (No. 56390), a narrow-leaved species of horsechestnut from central China, has been tried in the State of Washington and found better suited to the windy conditions there than the European species.

Acer sterculiaceum (No. 56399), a rare species of maple growing 80 feet high in the Himalayas at an altitude of 9,000 feet, has been sent by G. H. Cave, of Darjiling, India, as has also the handsome Himalayan birch (*Betula utilis*, No. 56400), which is still a rare tree in Great Britain.

C. A. Reed, nut expert of the Department of Agriculture, during his mission to China to study the walnut industry secured among other things a collection of walnuts (*Juglans regia*, Nos. 56409 to 56425) from the northern limit of the culture of this species in China which ought to prove decidedly valuable for American growers of this nut.

Cudrania javanensis (No. 56787), a thorny shrub which was introduced in 1915 from Taiwan and has grown unusually well on the rocky soils of southern Florida, is again introduced from New South Wales. Its value as a fruiting shrub or, as suggested, for hedge purposes deserves to be studied. It is related to the Chinese species, *Cudrania tricuspidata*, and to the Osage orange, *Toxylon pomiferum*, and as crosses between the two genera have been successfully made plant breeders may do something worth while with them.

Hydnocarpus alpina (No. 56445), a relative of one of the chaulmoogra-oil-producing trees of Burma, *H. wightiana*, and *H. anihelminthica*, from the Nilghiri Hills of southern India, were sent in by Edmond Versin, of St. Jean le Blanc, France.

Four rare species of maple (*Acer* spp., Nos. 56453 to 56456), from Darjiling, which may thrive in the State of Washington and add their beauty to the parks there, have come from G. H. Cave.

Through Dr. H. L. Shantz seeds have come from Capt. Charles M. F. Swynerton, of Kilossa, Tanganyika Territory, East Africa, of the Johnston clover, *Trifolium johnstoni* (No. 56458). In the high altitudes of East Africa this is one of the prominent forage plants.

Dr. Carl Hartley sent in on request seeds of the large edible chestnut of western Java, *Castanopsis argentea* (No. 56461), which, because of its excellent quality, is worthy of the consideration of tropical horticulturists. The possibilities of a tropical chestnut for the northern markets, we believe, have not yet been considered.

In 1911 Sir Percy Fitzpatrick, of Johannesburg, Transvaal, sent the seeds of *Asparagus africanus*, with his opinion that it is better in flavor than any of the cultivated varieties. In view of the possibility of this species being adapted to certain conditions in America for which our ordinary varieties of *A. officinalis* are not suitable, we are glad to get an additional lot of seeds (No. 56483) through Mr. Gossweiler, of Loanda, Angola.

In 1919 Mr. Gossweiler sent seeds of a remarkable vegetable, *Rumex abyssinicus*, which made an unusual growth in American gardens, often attaining 7 feet in height, and because of its entire freedom from fiber and its delicate texture it has recommended itself for general use in the Southern States as a new source of summer "greens," a class of vegetable much desired by residents there. Mr. Gossweiler has sent another lot of seed (No. 56486) for further experimentation.

Tecoma garrocha (No. 56535), a native of Argentina, may supplant with its slender raceme of bright-yellow and scarlet flowers the well-known *T. stans* so commonly grown in Florida. Doctor Proschowsky has sent seeds from Nice, France.

From Hobart, Tasmania, the Secretary of Agriculture has sent a collection of seeds which includes three handsome acacias (*Acacia* spp., Nos. 56559 to 56561), a species of Casuarina new to Florida (*C. suberosa*, No. 56564), the Wallaby grass (*Danthonia semiannularis*, No. 56566), a perennial tufted fodder grass (*Stipa pubescens*, No. 56569), and *Eucalyptus regnans* (No. 56567), the tallest of the genus, even reaching, according to earlier records, 400 feet in height; in other words, one of the tallest trees of which there is any record.

Twelve selected varieties of sugarcane (*Saccharum officinarum*, Nos. 56617 to 56628) representing a long series of selections and plant-breeding experiments to produce plants resistant to the mosaic disease have been received from Robert M. Grey. Field tests will show whether these are highly resistant under other conditions than those about Cienfuegos, Cuba, where Mr. Grey carried on his breeding experiments.

A collection of mango varieties (*Mangifera indica*, Nos. 56648 to 56659) from Rio de Janeiro, presented by Dr. P. H. Rolfs, of Vicosia, Minas Geraes, although inferior in size and color to the East Indian mangos, may be valuable for southern Florida, where the anthracnose is so prevalent, on account of their resistance to that disease.

Aleurites montana (No. 56676), the mu-oil tree of southern China, bears nuts that yield the southern tung oil of commerce, which appears to be indistinguish-

able from the northern tung oil obtained from *A. fordii*. In view of the increasing use for this oil southern Florida may become a domestic source of supply through the growth of the southern species.

Vicary Gibbs has given us his Aldenham flowering apple (*Malus sylvestris*, No. 56693), said to be a chance hybrid originating at Aldenham and one of the very finest of all the red-flowered apples, for our parks and dooryards. He has sent also seeds of *Stranvaesia davidiana* (Nos. 56695 and 56696), a handsome bush or small standard tree which is evergreen and hardy at Washington and because of its bright foliage worthy of a place in any small garden.

After many years of fruitless effort there have been collected at last, through the kindness of C. T. White, Government botanist of Queensland, the seeds of the two unusually hardy species of *Garcinia*, *G. mestoni* (No. 56699) and *G. gibbsiae* (No. 56698), both native to the forests of the Bellenden Ker Hills of Queensland at altitudes of 2,000 feet. Since these may grow better in southern Florida than the more tropical species of *Garcinia*s, they have a special interest for those interested in the establishment of the mangosteen in the Western Hemisphere. *Garcinia mestoni* has a large, very juicy fruit of a pleasant acid flavor, but ripe fruits of *G. gibbsiae* have not yet been eaten by any collector who could describe its character. Although the seeds sent by Mr. White failed to live, he is now growing plants in Brisbane for shipment to America.

Thirty-six seedling sweet-potato varieties (*Ipomoea batatas*, Nos. 56710 to 56745) from plantings of the Big Wig, Key West "yam," and Black Rock varieties which it is believed were crossed naturally, for trial in the sweet-potato regions of this country, were sent by J. B. Thompson, of St. Croix, Virgin Islands.

Consul Charles E. Allen, of Damascus, sent a collection of apple varieties (*Malus sylvestris*, Nos. 56746 to 56755) from the Plain of Zebdani, which lies northwest of Damascus and is 3,500 feet above the sea. It is possible that some of these may prove better adapted to the Mohave Desert apple region of California than are the Jonathan, Rome Beauty, Yellow Newtown, and other varieties now being tried there.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared by Paul Russell, who has had general supervision of this inventory.

DAVID FAIRCHILD,
Agricultural Explorer in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., July 25, 1924.

INVENTORY¹

56145. RUBUS sp. Rosaceæ.

Raspberry.

From Stavanger, Norway. Plants presented by Thoralf Bryne. Received March 1, 1923.

"Paradise berry. A large red raspberry, almost as large as the largest variety known in cultivation, which is the English variety 'The Royal.' (Bryne.)

56146 and 56147.

From Brisbane, Queensland. Seeds presented by C. T. White, Government botanist. Received January 4, 1923.

56146. DAVIDSONIA PRURIENS F. Muell. Cunoniaceæ.

A small (30 to 40 feet) tree of graceful erect habit with long drooping pinnate leaves and pendulous clusters of reddish flowers. The oval fruit about the size of a goose egg is covered with short stiff hairs. Rubbing with a rough cloth quickly and easily removes these and exposes the smooth, plumlike, purple skin. The soft fleshy pulp is rich purple and has a sharply acid flavor; it contains a few flat, irregularly shaped seeds which are small for the size of the fruit, a feature not frequently occurring in wild fruits. This "plum," as it is called, is largely used by settlers in Queensland for making jam and jelly. The hard dark-brown, close-grained wood is tough and durable and is used for tool handles and mallets. This tree is a native of tropical Queensland; a smaller form is found in southern Queensland and adjoining parts of New South Wales.

For previous introduction, see S. P. I. No. 54785.

56147. EUCALYPTUS STAIGERIANA F. Muell. Myrtaceæ. Lemon-scented ironbark.

"This is a valuable oil-yielding species which so far has not been exploited because the trees grow in rather isolated places in North Queensland." (White.)

A tree of medium size with oval or narrow blue-green leaves covered with numerous oil dots. The foliage of this tree yields a large quantity of oil, equal in fragrance to that of lemons, for which it is an agreeable substitute. The proportion of oil obtained from dry leaves is 2½ per cent; the specific gravity of the oil is 0.901. (Adapted from Bailey, *Synopsis of the Queensland Flora*, p. 176.)

56148. PAPPEA CAPENSIS Eckl. and Zeyh. Sapindaceæ.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by I. B. Pole Evans, Chief, Division of Botany. Received January 5, 1923.

A shrub or small tree which occurs abundantly in the vicinity of the Fish River, Cape Province,

South Africa. The wood is white, close-grained, and hard and is used for farm implements and furniture. The leathery, hard fruit, about half an inch in diameter, usually contains one reddish brown seed with a brittle shell; within is a soft kernel which is yellow and very oily. The kernel constitutes about 65 per cent of the entire seed. The entire seeds contain 47.8 per cent of oil, which is golden yellow and fairly viscous. The oil is of the "nondrying" type and probably could be used either for soap manufacture or as a lubricant. The residual meal left after extracting the oil has a fairly good nutritive value, but also a small quantity of a saponin, and feeding trials would be necessary to determine whether the meal could be used as cattle feed. (Adapted from *Bulletin of the Imperial Institute, London*, vol. 17, p. 488.)

56149. LILIUM sp. Liliaceæ. Lily.

From Burma. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received January 5, 1923.

"(No. 6732. Kachin Hills. November 13, 1922.) A tall lily 10 feet high, with a stem 2 inches in diameter, collected along a brook in a rhododendron thicket on the Mengka-Sadon Trail, in northern Burma, on the Changfang Mountains at an altitude of 9,400 feet. The leaves are broadly triangular, and although the plant was seen only in the fruiting stage, it is probable that the flowers are large. In the region where this species grows it is now extremely cold, ice forming on the brooks at about 4 p. m." (Rock.)

56150 to 56152.

From China and India. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received January 5, 1923. Quoted notes by Mr. Rock.

56150. MALUS sp. Malaceæ. Apple.

"(No. 6725. Hpunkaw, Burma. November 11, 1922.) A tree 60 to 70 feet tall, with a trunk 3½ feet in diameter, found in sandy soil in dense forests on the ridge above the Kachin village of Hpunkaw. The branches are apt to have long spinelike branchlets near the trunk, but these do not occur on the older branches. The fruits, about 2 inches in diameter, are somewhat oval, with firm aromatic flesh."

56151 and 56152. PYRUS spp. Malaceæ. Pear.

56151. PYRUS sp.

"(No. 6730. Mengka, Yunnan. November 12, 1922.) A tree 30 feet high, with long spreading branches, found wild in sandy loam on a small plain at an altitude of 5,400 feet. The large oblong leaves are acute at both ends, and the very numerous, spherical-compressed, russet-brown fruits are an inch in diameter. Where this species grows it is very cold; ice forms now every day in the late afternoon."

¹ It should be understood that the varietal names of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Seed and Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their identity fully established, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized American codes of nomenclature.

56150 to 56152—Continued.

56152. PYRUS sp.

"(No. 6731. Mengka, Yunnan. November 12, 1922.) A wild pear which grows in company with the preceding. No. 6730 [S. P. I. No. 56151], but has smaller leaves and fruits; the latter are oblong pear shaped, reddish yellow, and very numerous."

56153 to 56157. FRAGARIA spp. Rosa-ceæ. Strawberry.

From Bourg la Reine, Seine, France. Plants presented by Millet & Fils. Received January 5, 1923. Quoted notes from catalogue of Millet & Fils.

Secured for department horticulturists experimenting with small fruits.

56153. FRAGARIA sp.

"*Belle Lyonnaise*. Plant thickset, vigorous; fruit round, very fragrant, with white flesh."

56154. FRAGARIA sp.

"*Docteur Morère*. Fruit very large and sweet; one of the best varieties; forces well."

56155. FRAGARIA sp.

"*Madame Meslé*. A very vigorous giant variety with enormous brilliant vermilion red fruits with pink flesh; a good commercial variety of large yield. Season medium."

56156. FRAGARIA sp.

"*St. Fiacre*. This is the best variety obtained thus far; the plant is very vigorous, with dark-green foliage, and the fruits very large, of a brilliant red and extra quality. The yield is large the first season, and the variety is excellent for forcing and quantity production."

56157. FRAGARIA sp.

"*Marguerite Lebreton*. A very early variety, with abundant elongated fruits. One of the best forcing varieties."

56158. GUILIELMA UTILIS Oerst. Phœnicaceæ. (*Bactris utilis* Benth.) Pejibaye.

From San Jose, Costa Rica. Seeds purchased from Otón Jimenez. Received January 16, 1923.

A shipment of seeds of the pejibaye. For an extended account of this interesting food palm, see the Journal of Heredity, vol. 12, pp. 154-166, April, 1921.

For previous introduction, see S. P. I. No. 54776.

56159 to 56175. FRAGARIA spp. Rosaceæ. Strawberry.

From Maidstone, England. Plants purchased from George Bunyard & Co. Received January 6, 1923. Quoted notes from Bunyard's Catalogue of Fruit Trees.

These varieties, not in the American trade, have been secured for department specialists engaged in strawberry breeding.

56159. FRAGARIA sp.

"*Bedford Champion*. Plant robust, with fine foliage; fruit large, with refreshing acid flavor. Season medium."

56160. FRAGARIA sp.

"*Black Prince*. Fruit small, dark red with scarlet flesh, one of the best for preserving, as the flesh turns a deep red and has a delicious flavor. This is the earliest ripening strawberry here."

56159 to 56175—Continued.

56161. FRAGARIA sp.

"*Countess*. Fruit handsome, wedge shaped, dark crimson, and of first-rate flavor. A moderate cropper. Season late."

56162. FRAGARIA sp.

"*Hibberd's George the Fifth*. Fruits large, some cockscomb shaped, very bright shining scarlet, with carmine, very firm flesh and a flavor equal to the best. This should not be confounded with *Laxton's George the Fifth*. Season late."

56163. FRAGARIA sp.

"*Laxton's Tidbit*. Fruit firm, brilliant scarlet, with white flesh of an exquisite flavor. Central fruits are ovate wedge shaped. Season medium."

56164. FRAGARIA sp.

"*Little Scarlet*. Fruit small, firm, light red, very freely produced, recommended especially for jam. Season early."

56165. FRAGARIA sp.

"*Madame Kooi*. Fruit enormous, hollow, poor flavor, white flesh, crop large. Of Dutch origin. Season medium."

56166. FRAGARIA sp.

"*President*. Fruit handsome, of pale color, with rich pine flavor; fine for forcing, as it retains its flavor and bears well. One of the best all-round sorts as regards quality and productiveness for main crop. Season medium."

56167. FRAGARIA sp.

"*Royal Hautbois*. A fine form of alpine strawberry, of rich aromatic flavor; good free habit."

56168. FRAGARIA sp.

"*St. Fiacre*. The berries, as large as Royal Sovereign, are freely produced and are of a bright color and rich flavor. Bears well in the summer without spoiling the autumn crop which ripens in September and October. A prolific bearer."

56169. FRAGARIA sp.

"*Sir Douglas Haig*. Fine flavor, brilliant color, early, and of large size. Season early."

56170. FRAGARIA sp.

"*The Bedford*. Constant and free bearer; fruit round, of fine appearance, first-rate sweet flavor; foliage ample. Season medium."

56171. FRAGARIA sp.

"*The Earl*. This may be best described as a much improved *Viscountess de Thury*, larger in size, more vigorous, and free cropping. Season late."

56172. FRAGARIA sp.

"*The Queen*. An improved *British Queen*. Season medium."

56173. FRAGARIA sp.

"*Twentieth Century*. Large bright-red fruits, produced in enormous quantity; constitution very vigorous."

56174. FRAGARIA sp.

"*Utility of Laxton*. Good color, size, and flavor; the finest late strawberry yet produced."

56175. FRAGARIA sp.

"*Waterloo*. Plant heat resistant, runners few; fruit large, remarkable for its black mulberrylike appearance. Season late."

56176. CITRUS GRANDIS (L.) Osbeck.
Rutaceae. Grapefruit.

From Bangkok, Siam. Seeds presented by Dr. Y. S. Sanitwongse, through Maurice P. Dunlap, American consul. Received January 9, 1923.

"*Thong Dee* or '*Golden*' pummelo. Fruit neither globose nor pear shaped, but somewhat flattened with one side of pistil end somewhat cheeked; size large, measuring 6 inches wide and only $4\frac{1}{2}$ inches high; rind averaging half an inch thick, slightly colored pink in pithy part, especially near the flesh; flesh colored like that of *Daang Ai Chaa*, except that it is rather of a light brown than deep red and the color appears only in streaks in a flesh which is in reality quite white; seeds many; pulp vesicles large and easily separating from membrane, very juicy; flavor good but not so delicious as *Kao Pan*; general shipping qualities not so favorably reported as many other varieties; tree vigorous and reported to produce fruits of attractive flavor and juiciness under somewhat adverse conditions." (G. Weidman Groff.)

56177 and 56178. AMYGDALUS COMMUNIS L. Amygdalaceae. Almond.
(Prunus amygdalus Stokes.)

From Serai, Bagdad, Mesopotamia. Seeds presented by G. S. Cameron, officiating director of agriculture. Received January 8, 1923. Quoted notes by Mr. Cameron.

Seeds of two native almond varieties of Mesopotamia.

56177. "Sweet almonds with a thin, soft shell."

56178. "Sweet almonds with a hard, thick shell."

56179. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Milan, Italy. Seeds purchased from Fratelli Ingegneri. Received January 24, 1923.

Seeds of a giant red clover introduced for cultural and comparison tests.

56180. GUILIELMA UTILIS Oerst. Phœnicaceae. (Bactris utilis Benth.) Pejibaye.

From Limon, Costa Rica. Seeds presented by G. P. Chittenden, manager, United Fruit Co. Received January 16, 1923.

For previous introduction, see S. P. I. No. 56158.

56181 and 56182. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received January 31, 1923.

Locally grown red-clover seeds introduced for cultural and comparison tests.

56181. *Surchoix Extra*. Grown northwest of Paris.

56182. *Violet de Bretagne*. Grown in Brittany.

56183 to 56191.

From Brisbane, Queensland. Seeds presented by E. W. Bick, curator, Botanic Garden. Received January 22, 1923.

56183 and 56184. *ACACIA* spp. Mimosaceae.

56183. *ACACIA FASCICULIFERA* F. Muell.

A tall acacia from south west Queensland, where it sometimes reaches a height of 70 feet. The phyllodia or "leaflike stems" are leathery, very narrow, with

56183 to 56191—Continued.

callous tips, and from 4 to 6 inches long. The flower heads, each containing 20 to 30 flowers, are borne in small axillary clusters. The very hard red wood is close grained and commonly used for building.

56184. *ACACIA JUNCIFOLIA* Benth.

A large slender-branched shrub, native to Queensland, with rushlike phyllodia 6 inches long or more and tipped with erect or curved points. The small fuzzy globular flower heads are borne singly or in pairs.

56185. *BRACHYCHITON DISCOLOR* F. Muell. Sterculiaceae. (*Sterculia discolor* F. Muell.)

A large tree native to southern Australia, with roundish heart-shaped leaves, 4 to 6 inches in diameter, with white-velvety lower surfaces. The rose-red flowers, up to 2 inches long, are borne in few-flowered clusters in the upper axils. The wood is soft, light colored, and of rather coarse grain; when dried, however, it hardens and makes good shingles.

56186. *CASSIA BREWSTERI TOMENTELLA* F. Muell. Cæsalpinaceae.

An erect slender tree 20 to 30 feet high, found in thickets about Obum Obum, Queensland, where it is known as "bean tree." The branches, under surface of the leaflets, and small yellow flowers are covered with fine white hairs. The cylindrical pods, 1 or 2 feet long, are bright reddish brown. (Adapted from *Bailey, Queensland Flora*, pt. 2, p. 456.)

For previous introduction, see S. P. I. No. 37137.

56187 and 56188. *ERYTHRINA* spp. Fabaceae.

56187. *ERYTHRINA TOMENTOSA* R. Br.

A small tree 10 to 15 feet high, with thick, rough, prickly bark, native to South Africa. The trifoliolate long-stemmed leaves, 10 to 14 inches long and wide, are densely hairy on both surfaces, and the bright-crimson flowers are borne in many-flowered spikelike clusters. The woody pods, velvety on the surface, are alternately swollen and contracted, which gives them a bizarre appearance. (Adapted from J. Medley Wood, *Natal Plants*, vol. 4, pls. 384, 386.)

56188. *ERYTHRINA VESPERTILIO* Benth. Coral tree.

Usually a small tree with prickly branches, broadly 3-lobed leaves, and numerous erect showy racemes of red flowers. The soft straw-colored wood is very light and spongy and is used by the natives for making shields. The roots are eaten raw.

56189. *EUCALYPTUS RARIFLORA* F. M. Bailey. Myrtaceae.

A tall eucalypt from Queensland, where it appears to be rather rare. The slender branchlets are of a pleasing red, and the very variable leaves are almost circular on young trees, becoming very narrow on the older wood. The slender panicles contain usually only a few scattered flowers. (Adapted from *Queensland Agricultural Journal*, new series, vol. 1, p. 62.)

56190. *EVODIA ACCEDENS* Blume. Rutaceae.

An erect tree 70 to 80 feet in height, native to damp scrubby places throughout Queensland. The light-colored bark is somewhat corky, and the papery trifoliolate leaves are up to 5 inches long. The small pink flowers, which turn bluish as they die away, are borne in dense lateral clusters. The wood is very white, light, and soft.

56183 to 56191—Continued.

56191. *FLINDERSIA OXLEYANA* F. Muell.
Meliaceæ.

A tall, much-branched tree, often becoming 100 feet in height, with opposite compound leaves which are crowded under the loose, many-flowered panicles. The bright-yellow, strong and fibrous wood is used in cabinet work; it is not readily attacked by white ants. (Adapted from *Bailey, Queensland Flora*, pt. 1, p. 239.)

56192. *RAPHANUS SATIVUS* L. Brassicaceæ. Radish.

From Algiers, Algeria, North Africa. Seeds presented by Dr. L. Trabut, Government botanist. Received January 5, 1923.

"Variety *campestris*. An improved giant radish, with large roots, used as cattle feed. The seeds are sown at the beginning of the rainy season, from August to October." (*Trabut*.)

56193 to 56195. *COIX LACRYMA-JOBI* MA-YUEN (Rom.) Stapf. Poaceæ. Ma-yuen.

From Buitenzorg, Java. Seeds presented by H. de Veer, chief of the plant-breeding station for annual crops, Java Department of Agriculture. Received January 8, 1923. Quoted notes by Mr. de Veer.

The *ma-yuen* is an edible soft-hulled variety of Job's-tears (*Coix lacryma-jobi*) quite different from the ordinary form, with hard beadlike seeds. It is grown in India, China, the East Indies, and also in the Philippines, where it is known as "adlay." For an account of the uses of adlay as a cereal and for analytical data, see *The Philippine Agricultural Review*, vol. 14, pp. 159-177.

56193. "*Djali ketan*. A glutinous form."

56194. "*Witte djali bras*. A form with white seeds."

56195. "*Zwarte djali bras*. A form with black seeds."

For illustrations of the *ma-yuen*, see Plates I and II.

56196 and 56197. *NAGEIA* spp. Taxaceæ.

From Hogsback, via Lovedale, Cape Province, South Africa. Seeds presented by David A. Hunter. Received January 8, 1923.

"These trees grow slowly but finally become very large. The timber is fine grained and is largely used in our shops for furniture." (*Hunter*.)

56196. *NAGEIA ELONGATA* (Ait.) Kuntze.
(*Podocarpus elongata* L'Herit.)

This is known in South Africa as the "common yellow-wood," and it is the largest, most plentiful, and one of the most useful trees of Cape Province. The narrow evergreen leaves are quite short, being little more than an inch long. The tree becomes 80 to 120 feet in height, with a trunk usually 3 to 4 feet in diameter, occasionally 10 feet. The wood is light, soft, moderately strong and elastic, and of a pale yellow brown. When exposed to the weather the wood is quite durable.

56197. *NAGEIA THUNBERGII* (Hook.) F. Muell. (*Podocarpus thunbergii* Hook.)

A fine evergreen timber tree, up to 100 feet tall and with a trunk 4 feet in diameter, which occurs throughout all the timber forests from the Cape of Good Hope to Natal. The quality of the wood of this species is very similar to that of the preceding [*S. P. I. No. 56196*], and for most purposes they are used indiscriminately.

56198. *CYRTANTHUS CONTRACTUS* N. E. Brown. Amaryllidaceæ.

From Pretoria, Transvaal, Union of South Africa. Bulbs presented by I. B. Pole Evans, Chief, Division of Botany, Department of Agriculture. Received January 10, 1923.

A handsome member of the amaryllis family from the Transvaal, where its conspicuous beauty as it flowers on the burnt-over fields has earned it the name of "fire lily." The narrow bluish green leaves are over a foot in length, and the Van Dyke red peduncle, 7 inches or over long, bears a pendulous cluster of faintly scented scarlet or carmine flowers with strawberry-red pedicels. (Adapted from *Flowering Plants of South Africa*, vol. 1, pl. 4.)

56199 to 56265. *TRITICUM* spp. Poaceæ.

From Lisbon, Portugal. Seeds presented by Prof. D. A. Tavares da Silva, Instituto Superior de Agronomia. Received January 10, 1923. Quoted notes by Professor Tavares da Silva.

A collection of the wheat varieties of Portugal, obtained from the Instituto Superior de Agronomia, Lisbon. Secured for department cerealists.

56199 to 56231. *TRITICUM AESTIVUM* L.
(*T. vulgare* Vill.) Common wheat.

56199 and 56200. "Hard white-bearded wheat."

56199. "No. 5. *Barbella*."

56200. "No. 11. *Rieti*."

56201 to 56208. "Soft wheat."

56201. "No. 30. *Barbella*."

56202. "No. 31. *Beirão*."

56203. "No. 33. *Galêgo barbado*."

56204. "No. 34. *Portuguez*."

56205. "No. 35. *Precoce italiano*."

56206. "No. 36. *Ribeiro*."

56207. "No. 37. *Rieti*."

56208. "No. 38. *Temporão de Coruche*."

56209 to 56217. "Beardless wheat."

56209. "No. 42. *Aurora*."

56210. "No. 43. *Galêgo rapado*."

56211. "No. 44. *Gentil rosso*."

56212. "No. 45. *Manitoba*."

56213. "No. 46. *Môcho de espiga quadrada*."

56214. "No. 48. *Galêgo rapado* × *Vermelhoilo*."

56215. "No. 49. *Fucense* × *Môcho de espiga branca*."

56216. "No. 50. *Rieti* × *Galêgo rapado*."

56217. "No. 51. *Rieti* × *Môcho de espiga branca*."

56218 to 56231. "Bearded wheat."

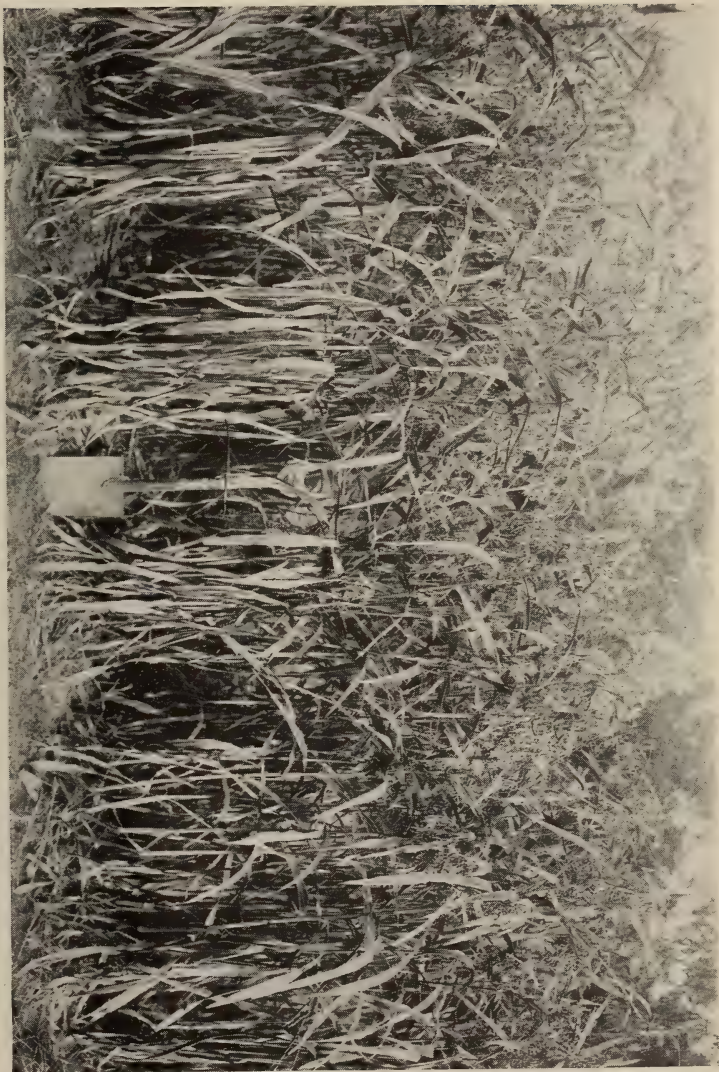
56218. "No. 52. *Amarelo de barba branca* × *Ribeiro*."

56219. "No. 53. *Amarelo de barba preta* × *Ribeiro*."

56220. "No. 54. *Amarelo de barba preta* × *Ribeiro* (*Sado*)."

56221. "No. 55. *Anafil* × *Galêgo barbado* (*Belém*)."

56222. "No. 56. *Barbella* × *Santa Martha*."



MA-YUEN, AN EDIBLE SOFT-HULLED VARIETY OF JOB'S-TEARS. (COIX LACRYMA-JOBI MA-YUEN (ROM.)

STAFF.; S. P. I. NOS. 56193 TO 56195)

Although an edible soft-hulled form of Job's-tears appears to have been known since ancient times in India and also for a considerable time in other parts of Asia. It was not until recent years that horticulturists in the Philippines began to see the possibilities of adlay, as this cereal is known there. Under equal conditions it is more productive than rice, the average yield being about 35 bushels per acre, a yield which could probably be increased 10 or 15 per cent by systematic breeding. Wherever rice can be grown adlay will grow, and where the growing wet season is followed by a dry period adlay is more productive than rice. Furthermore, it should be possible to cultivate and harvest adlay with machinery like that used for wheat. (Photographed at the Larnao Experiment Station, Larnao, Philippine Islands)



ONE OF THE BEST PHILIPPINE FORMS OF MA-YUEN. (COIX LACRYMA-JOBI MA-YUEN (ROM.) STAPP.; S. P. I. Nos. 56193 TO 56195)

According to P. J. Wester, of the Philippine Bureau of Agriculture, there are at present in the Philippines seven distinct forms of adlay. These vary greatly in size, shape, color, and hardness of the dried grains; the most desirable forms having small grains with very thin hulls. It is claimed for adlay that it is more easily hulled than rice; it is more nutritious and at least as palatable as rice and can be prepared and eaten in the same manner; it can be ground and mixed with wheat flour to make bread of good quality; it is excellent as chicken feed; and, finally, when cracked it makes a delicious breakfast food. As a supplementary crop to rice and corn it appears to have a promising future in the Philippines and elsewhere in the Tropics, and as a substitute for wheat it deserves very careful consideration. (Photographed at the Lanao Experiment Station, Lanao, Philippine Islands)

56199 to 56265—Continued.

56223. "No. 57. *Galêgo barbado* × *Fucense*."
56224. "No. 58. *Galêgo barbado* × *Lobeiro (Ideal)*."
56225. "No. 59. *Lobeiro* × *Barbella*."
56226. "No. 61. *Lobeiro* × *Galêgo barbado*."
56227. "No. 62. *Lobeiro* × *Ribeiro*."
56228. "No. 63. *Santa Martha* × *Barbella*."
56229. "No. 64. *Santa Martha* × *Fucense*."
56230. "No. 65. *Santa Martha* × *Ribeiro*."
56231. "No. 66. *Amarelo barba de branca* × *Ribeiro* × *Ribatejano*."
56232. *TRITICUM AESTIVUM* × *DURUM*.
Hybrid wheat.
"No. 47. *Anafil* × *Môcho de espiga branca*.
Beardless wheat."
56233. *TRITICUM AESTIVUM* × *POLONICUM*.
Hybrid wheat.
"No. 67. *Rieti* × *Galêgo barbado* × *Gigantil*.
Bearded wheat."
56234. *TRITICUM DICOCUM* Schrank. *Emmer*.
"No. 1. *Spelta*. Hard wheat."
- 56235 to 56259. *TRITICUM DURUM* Desf.
Durum wheat.
- 56235 to 56241. "Hard white-bearded wheat."
56235. "No. 4. *Amarelo de barba branca*."
56236. "No. 6. *Branco*."
56237. "No. 7. *Candial*."
56238. "No. 9. *Da Terra*."
56239. "No. 10. *Lobeiro*."
56240. "No. 12. *Santa Martha*."
56241. "No. 14. *Vermelhoilo*."
- 56242 to 56255. "Hard black-bearded wheat."
56242. "No. 16. *Amarelo de barba preta*."
56243. "No. 17. *Anafil*."
56244. "No. 18. *Aza de Córvo*."
56245. "No. 19. *Cascalvo*."
56246. "No. 20. *Javardo*."
56247. "No. 21. *Marquez*."
56248. "No. 22. *Monjil*."
56249. "No. 23. *Mourisco*."
56250. "No. 24. *Pombinho*."
56251. "No. 25. *Rapinegro*."
56252. "No. 26. *Rubião*."
56253. "No. 27. *Vermelho fino*."
56254. "No. 28. *Durazio rijo*."
56255. "No. 29. *Durazio mollar*."
- 56256 to 56259. "Soft wheat."
56256. "No. 39. *Tremez preto*."
56257. "No. 40. *Tremez rijo*."
56258. "No. 41. *Tremez molle*."

56199 to 56265—Continued.

56259. "No. 60. *Lobeiro* × *Branco*.
Bearded wheat."
56260. *TRITICUM DURUM* × *TURGIDUM*.
"No. 8. *Canôco*. Hard white-bearded wheat."
56261. *TRITICUM POLONICUM* L.
Polish wheat.
"No. 2. *Gigantil*. Hard wheat."
- 56262 to 56265. *TRITICUM TURGIDUM* L.
Poulard wheat.
56262. "No. 3. *Milagre, ou Sete-espigas*.
Hard wheat."
56263. "No. 13. *Sicilio*. Hard white-bearded wheat."
56264. "No. 15. *Alexandre*. Hard black-bearded wheat."
56265. "No. 32. *Egypcio*. Soft wheat."
- 56266 to 56271. *ORYZA SATIVA* L. *Poaceae*.
Rice.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received January 15, 1923. Quoted notes by Mr. Hernandez.

Secured for department rice specialists.

"Seeds of six more or less scented or flavored varieties of rice. The material was raised by this bureau at its Alabang Rice Station, Alabang, Rizal. These rices are white, nonglutinous, and non-bearded. Averages on maturity and yield were taken from results of previous years. The corresponding data for this year (1922) are not yet available."

56266. "(No. 13.) *Macan piña*. Tested 13 years under lowland conditions; matures usually in 139 days. Average yield 2,539 kilograms per hectare (approximately 2,260 pounds per acre)."
56267. "(No. 15.) *Mangasa III*. Tested 3 years under lowland conditions; matures usually in 137 days. Average yield 1,245 kilograms per hectare (approximately 1,110 pounds per acre)."
56268. "(No. 27.) *Antique*. Tested 7 years under lowland conditions; matures usually in 149 days. Average yield 2,889 kilograms per hectare (approximately 2,500 pounds per acre)."
56269. "(No. 31.) *Bong Dua*. Tested 3 years under lowland conditions; matures usually in 164 days. Average yield 1,660 kilograms per hectare (approximately 1,470 pounds per acre)."
56270. "(No. 163.) *Sipot*. Tested 14 years under lowland conditions; matures usually in 137 days. Average yield 2,486 kilograms per hectare (approximately 2,200 pounds per acre)."
56271. "(No. 164.) *Guinalong*. Tested 12 years under lowland conditions; matures usually in 140 days. Average yield 2,340 kilograms per hectare (approximately 2,080 pounds per acre)."

56272. *TRIFOLIUM SQUARROSUM* L.
Fabaceae. *Clover*.

From Florence, Italy. Seeds presented by Prof. A. Fiori, Reale Istituto Superiore Forestate di Firenze. Received January 16, 1923.

Introduced for cultural and comparison tests with American clovers.

An upright or ascending, robust annual with branches up to 30 inches in length, native to the

Mediterranean countries. The pink or white flower heads are oval when young, becoming more elongated later.

56273 and 56274. RUBUS spp. Rosa-ceæ. Raspberry.

From Los Banos, Philippine Islands. Seeds presented by Prof. J. E. Higgins, Los Banos College of Agriculture. Received January 16, 1923.

Philippine species of Rubus introduced for breeding experiments with our cultivated blackberries and raspberries.

56273. RUBUS FRAXINIFOLIUS Poir.

A scrambling shrub, with branches 2 to 4 meters (6½ to 13 feet) long, which is very common in the mountains from Luzon to Mindanao, Philippine Islands. The stems and leaves are armed with sharp spines, and the white flowers are about 2 centimeters (nearly an inch) across. The bright-red berries 10 to 15 millimeters (about half an inch) in diameter, borne in clusters, are fairly juicy and edible but rather tasteless. (Adapted from Brown, *Wild Food Plants of the Philippines*, p. 63.)

56274. RUBUS ROSAEFOLIUS J. E. Smith.

A spiny shrub rarely over 3 feet high, common in the mountains of Luzon, the Bisaya Islands, and Mindanao, Philippine Islands. The red fruits borne singly or in clusters are about 1.5 centimeters (half an inch) in diameter; they are juicy but rather insipid. (Adapted from Brown, *Wild Food Plants of the Philippines*, p. 66.)

56275 to 56281.

From China. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received January 15, 1923. Quoted notes by Mr. Rock.

56275. MALUS sp. Malaceæ. Apple.

"(No. 7003. November, 1922.) A tree 30 to 40 feet high occurring wild along water-courses in the Kuyung Mountains north of Tengyueh at an altitude of 7,000 feet. Probably a good stock plant."

56276. PHOTINIA sp. Malaceæ.

"(No. 7002. November, 1922.) A roseaceous tree 30 to 40 feet tall, with a dense crown, collected in the Kuyung Mountains at an altitude of 6,000 feet. The narrow pale-green leaves are toothed, and the flowers, said to be white, are borne in large panicles about 5 inches across. The fruits are deep orange red."

56277 to 56280. PYRUS spp. Malaceæ. Pear.

56277. PYRUS sp.

"(November, 1922.) A wild pear found in the mountains near Puerhfu at an altitude of 6,000 feet. The large mellow edible fruits are 3 to 4 inches in diameter."

56278. PYRUS sp.

"(No. 6735. November 20, 1922.) A large hardy tree 60 to 70 feet tall, which grows in the mountains beyond Taho, north of Tengyueh, at an altitude of 7,000 feet. The leaves are large, oblong, and acuminate, and the numerous reddish brown, somewhat acrid fruits are 2½ inches in diameter."

56279. PYRUS sp.

"(No. 6736. November 21, 1922.) A tree 30 feet high with a spreading crown, found at an altitude of 6,500 feet in a valley in an oak forest along a brook beyond Chiehnmachin, a day's journey north of Tengyueh. This species has small oval leaves and globose, greenish brown fruits the size of bullets."

56275 to 56281—Continued.

56280. PYRUS sp.

"(No. 7001. November, 1922.) A large tree 60 feet tall with a huge ascending crown, found in sandy soil in an oak forest in the Kuyung Mountains north of Tengyueh at an altitude of 7,000 feet. The leaves are large, oblong-lanceolate, with a reddish tinge. The numerous globose, greenish brown fruits are 2½ inches in diameter."

56281. ROSA sp. Rosaceæ. Rose.

"(No. 6738. November, 1922.) A large climbing rose growing wild on the slopes of the mountains near Mengka, four days' journey west of Tengyueh, at an altitude of 6,000 feet, in a region where frost and ice are common in December. The white flowers are in large terminal corymbs, and the fruits are oval and reddish."

56282. POLYALTHIA LONGIFOLIA (Sonner.) Benth. and Hook. Annonaceæ.

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, department of botany and forestry, experiment station of the Hawaiian Sugar-Planters' Association. Received January 15, 1923.

A large, handsome, erect evergreen tree which is wild in the drier parts of Ceylon and southeastern India and, because of its ornamental appearance and suitability as a shade tree, is commonly planted in avenues along roads in Bengal and South India. The ovoid purple fruits ripen during the rainy season, June to October; these are not eaten except in times of scarcity. The wood is white or whitish yellow, light and very flexible, and used for making matches, pencils, boxes, etc. (Adapted from Watt, *Dictionary of the Economic Products of India*, vol. 6, pt. 1, p. 313.)

For previous introduction, see S. P. I. No. 53923.

56283. LESPEDEZA STRIATA (Thunb.) Hook. and Arn. Fabaceæ.

Japanese clover.

From Kobe, Japan. Seeds presented by E. R. Dickover, American consul in charge. Received January 19, 1923.

Introduced for the use of department specialists engaged in breeding forage plants.

56284. PANICUM MAXIMUM Jacq. Poaceæ. Guinea grass.

From Marti, Camaguey, Cuba. Seeds purchased from Jose Sanchez Moran. Received January 24, 1923.

Introduced for the use of specialists engaged in forage-crop investigations.

A perennial erect bunch grass 4 to 6 feet tall, with broad, flat leaves and open spreading panicles of spikelets. It is a native of Africa introduced into tropical America, where it is cultivated for forage, furnishing pasture and green feed.

56285 to 56287. TRIFOLIUM spp. Fabaceæ.

From Aarhus, Denmark. Seeds presented by Fr. Dreyer, Aarhus, through S. Sørensen, agricultural adviser to the Danish Government, Washington, D. C. Received February 6, 1923. Quoted notes by Mr. Sørensen.

56285. TRIFOLIUM PRATENSE L. Red clover.

"Hersnap. This represents our best strain of red clover, and in several tests at the Danish State Experiment Station this gave about 20 per cent more hay than the usual commercial varieties."

For previous introduction, see S. P. I. No. 44107.

56285 to 56287—Continued.

56286 and 56287. *TRIFOLIUM REPENS* L.
White clover.

"The white clovers represent two of our best strains, one developed on the island of Fyn and the other on the mainland of Jutland. Both of these are very popular in Denmark."

56286. *Morso*.

56287. *Stryno*.

56288 to 56386.

From China. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received February 2, 1923. Quoted notes by Mr. Rock.

56288 to 56291. *ACER* spp. *Aceraceae*. Maple.

56288. *ACER DAVIDI* Franch.

"(No. 6799. October, 1922.) A very attractive maple 50 to 60 feet in height, found on the Likang Snow Range at an altitude of 10,000 feet. It has large oval heart-shaped, coarsely toothed leaves and long pendent clusters of samaras."

56289. *ACER* sp.

"(October, 1922.) A tall, stately tree 50 to 80 feet high, with a straight trunk, found among limestone boulders back of Nguluku on the Likang Snow Range at an altitude of 9,600 feet. The rather small leaves are 5-lobed, and the samaras are in erect spikes."

56290. *ACER* sp.

"(No. 6806. October, 1922.) A tall tree 70 to 80 feet high, with a dense round crown, from the western slopes of the Likang Snow Range on the Ashi Road at an altitude of 11,000 feet. The leaves are large and 3-lobed, and the samaras are borne in stout drooping clusters."

56291. *ACER* sp.

"(No. 6834.) A handsome evergreen maple 70 to 80 feet in height, with a huge crown, found at an altitude of 8,000 feet in the forest between Hpunkaw and Mengka, one and a half days' travel from the Burmese Kachin Hills. The trunk is more than 3 feet in diameter, and the branches descend almost to the ground."

56292. *BENZON* sp. *Lauraceae*.
(*Lindera* sp.)

"(Nos. 6723 and 7010. November, 1922.) A tree 35 feet high, with a spreading crown, common around Tengyueh and along the Taping River. The trunk is sometimes a foot or more in diameter, usually smaller; the leathery aromatic leaves are dark green and glossy. From the scarlet 1-seeded fruits, borne in short clusters, is obtained a white oily liquid used to make a yellow wax. This wax is used for burning, for keeping leather soft, and for other household purposes."

56293. *BERBERIS DICTYOPHYLLA* Franch.
Berberidaceae. Barberry.

"(No. 6804. October, 1922.) A spiny shrub 6 to 8 feet high, found on alpine meadows of the Likang Snow Range at an altitude of 12,000 feet. It is very ornamental, with yellow flowers and red fruits."

For previous introduction, see S. P. I. No. 55718.

56294. *BUDDLEIA FORRESTII* Diels. *Loganiaceae*.

"(No. 6816. October, 1922.) A very attractive shrub found only in limestone soil on the Likang Snow Range at an altitude of 10,000 feet. It has white woolly leaves and spikes of lavender-blue flowers."

56288 to 56386—Continued.

56295. *BUXUS* sp. *Buxaceae*. Box.

"(No. 6793. October, 1922.) A very handsome shrub about 5 feet high, which grows among limestone boulders on the Likang Snow Range at an altitude of 11,000 feet. The small elliptical leaves are bright green."

56296 to 56300. *CASTANOPSIS* spp. *Fagaceae*. Chestnut.

56296. *CASTANOPSIS* sp.

"(No. 6751. October, 1922.) A tall tree 70 to 80 feet in height, found on the slopes of the Likang Snow Range at an altitude of 10,000 feet. The thick leathery leaves are silvery beneath, and the small edible nuts are sweet."

56297. *CASTANOPSIS DELAVAYI* Franch.

"(No. 6768. November 30, 1922.) One of the finest and largest species of *Castanopsis* in Yunnan; it reaches 80 feet in height, with trunks 2 to 3 feet in diameter, and is found on the summit ridge of the Shweli-Salwin Divide at an altitude of 8,000 feet. It is a fine timber tree, free from disease. The small brown nuts are edible and sweet."

56298. *CASTANOPSIS* sp.

"(No. 6819. November 30, 1922.) A tree 50 to 80 feet high, with a trunk 4 feet in diameter, found on the Salwin Ridge at an altitude of 8,000 feet. The dark-green elliptic leaves are brown beneath, and the small black nuts are edible and sweet."

56299. *CASTANOPSIS* sp.

"(No. 7006. Kuyung. November, 1922.) A tree 40 to 50 feet in height, with a trunk 1 to 2 feet in diameter, which grows in the mountains north of Tengyueh at altitudes of 7,000 to 8,000 feet. The broad oval leaves are pointed, with the upper half toothed, and the spines on the burs are arranged in concentric rings. The small nuts are edible and sweet."

56300. *CASTANOPSIS* sp.

"(No. 7007. Kuyung. November, 1922.) A tree 60 to 80 feet high, with a high trunk 2 to 3 feet in diameter, found in the mountains north of Tengyueh at altitudes of 7,000 to 8,000 feet. The small elliptical dark-green leaves are thick and leathery, and the burs, an inch in diameter, are covered with branched spines. Each bur contains two or three brown, pubescent, sweet edible nuts."

56301 and 56302. *CORNUS CAPITATA* Wall.
Cornaceae. Benthams' cornel.

"A tree 30 feet high, with a trunk a foot or more in diameter, or at times shrubby. The fruits, about 2 inches in diameter, are strawberrylike in shape and color and have sweet yellow edible flesh. They are very popular with the natives and are often sold in the markets."

For previous introduction, see S. P. I. 56085.

56301. "(No. 6791. October, 1922.) From the lower slopes of the Likang Snow Range at an altitude of 9,000 feet."

56302. "(No. 7008. Kuyung. November, 1922.) From the mountains north of Tengyueh at an altitude of 7,000 feet."

56303 and 56304. *COTONEASTER* spp. *Mala-ceae*.

56303. *COTONEASTER* sp.

"(No. 6742. November 29, 1922.) A stiff, erect, very ornamental shrub 3 to 4

56288 to 56386—Continued.

feet in height, found on the highest point of the Shweli-Salwin watershed (altitude 11,000 feet), at a place called Hsuehshanting (summit of snow mountain), in company with rhododendrons and canebrae. Here during the winter months the mountains are covered with snow, and ice covers the pools and brooks all day. The reddish leaves are small and roundish, and the oval scarlet persistent berries are half an inch in diameter."

56304. COTONEASTER sp.

"(No. 6789. October, 1922.) A stout ornamental prostrate shrub which creeps over limestone rocks on the Likiang Snow Range at an altitude of 10,000 feet. The very small elliptical leaves are dark green, and the small berries are red."

56305. CUPRESSUS sp. Pinaceae. Cypress.

"(No. 6802. Peshwe. October, 1922.) A tall tree 40 to 50 feet high, with a stout trunk, found on margins of meadows north of Ngulukeu at an altitude of 11,000 feet."

56306 and 56307. DEUTZIA sp. Hydrangeaceae.

56306. DEUTZIA sp.

"(No. 6813. October, 1922.) A very ornamental shrub, with purplish white flowers, found along stream beds on the Likiang Snow Range at altitudes of 10,000 to 11,000 feet."

56307. DEUTZIA sp.

"(No. 7752.) From the Likiang Snow Range."

56308 to 56310. DIOSPYROS sp. Diospyraceae. Persimmon.

56308. DIOSPYROS sp.

"(Tengyueh. November 24, 1922.) A large spreading tree 50 feet tall, with a huge crown, found in the vicinity of Tengyueh, where it freezes every night during the cold season. It is a fine shade tree. The yellow fruits are the size of cherries."

56309. DIOSPYROS sp.

"(No. 6787. October, 1922.) A wild persimmon which grows as a tall, spreading tree on the dry slopes back of Likiang at an altitude of 8,500 feet. The small oval fruits are black."

56310. DIOSPYROS sp.

"(No. 6805. Shiku, Yangtze River. October, 1922.) A large spreading tree which bears black, sweet edible fruits the size of a half dollar."

56311 to 56313. EUONYMUS spp. Celastraceae.

56311. EUONYMUS PORPHYREUS Loes.

"(No. 6784. October, 1922.) An ornamental shrub 5 to 6 feet high, with red berries, found on the Likiang Snow Range at an altitude of 12,000 feet."

56312. EUONYMUS sp.

"(No. 6809. October, 1922.) A tree 25 feet tall found among limestone rocks on the lower slopes of the Likiang Snow Range at an altitude of 9,000 feet. The leaves are oval heart shaped and the fruits red and yellow."

56313. EUONYMUS sp.

"(No. 6812. October, 1922.) An ornamental tree 30 to 40 feet in height, with rich-green, narrow, sharp-pointed leaves and red fruits. It grows on the Likiang Snow Range at an altitude of 12,000 feet."

56288 to 56386—Continued.

56314. ILEX sp. Aquifoliaceae. Holly.

"(No. 6781. October, 1922.) A wild holly from the Likiang Snow Range at about 12,000 feet altitude. It is an ornamental tree 25 feet high, with leathery dark-green leaves and small yellowish berries."

56315. INDIGOFERA PENDULA Franch. Fabaceae.

"(No. 6798. October, 1922.) An exceedingly ornamental shrub 10 to 15 feet high, with long racemes of bluish purple flowers, found on the Likiang Snow Range at an altitude of 10,000 to 11,000 feet."

56316. KETELEERIA sp. Pinaceae.

"(No. 6321. October, 1922.) A handsome tree 50 feet in height, with light-green foliage and long oblong cones, found on the Sungkwe Pass, Hocking Range, two days' travel from Likiang, at an altitude of 11,000 feet."

56317 and 56318. LIGUSTRUM spp. Oleaceae. Privet.

56317. LIGUSTRUM IONANDRUM Diels.

"(No. 6810. October, 1922.) A very compact shrub 10 to 12 feet high, found among limestone boulders back of Ngulukeu on the Likiang Snow Range at an altitude of 10,000 feet. It has elliptical leaves and short terminal clusters of cream-colored fragrant flowers."

56318. LIGUSTRUM sp.

"(No. 6803. October, 1922.) A tree 40 to 50 feet high, with a trunk 1 to 2 feet in diameter, which grows along water-courses on the Likiang Snow Range at an altitude of 8,500 feet. The small fragrant cream-colored flowers are in large panicles."

56319. LITSEA sp. Lauraceae.

"(No. 6814. October, 1922.) An ornamental aromatic shrub 10 to 15 feet high, found on the Likiang Snow Range at an altitude of 10,000 to 11,000 feet."

56320 to 56325. MALUS sp. Malaceae. Apple.

56320 and 56321. MALUS YUNNANENSIS (Franch.) C. Schneid.

"A tree 30 to 40 feet high, which grows among limestone boulders along water-courses on the Likiang Snow Range at altitudes of 10,000 to 12,000 feet. The large oval heart-shaped, coarsely toothed leaves are hairy beneath and the yellowish crimson fruits, an inch in diameter, are in large clusters. One of the handsomest trees of the Likiang Snow Range."

56320. "(No. 6760. October, 1922.)"

56321. "(No. 6764. October, 1922.)"

56322. MALUS sp.

"(No. 6753. October, 1922.) A tree 60 to 80 feet in height, with stout straight branches, which grows on the slopes of the Likiang Snow Range at an altitude of 12,000 feet. The dark-green leaves are silvery beneath, and the oval yellow fruits have sour fragrant flesh and large seeds. The tree is very ornamental."

56323. MALUS sp.

"(No. 6758. October, 1922.) A tree 35 to 40 feet high which is found on the Likiang Snow Range at altitudes of 10,000 to 11,000 feet. The reddish green, strongly veined leaves are whitish beneath, and the numerous fruits are in large clusters."

56288 to 56386—Continued.

56324. *MALUS YUNNANENSIS* (Franch.) C. Schneid.

"(No. 6762. October, 1922.) A tree 40 feet high, with a dense crown, found on the lower slopes of the Likang Snow Range among limestone boulders along watercourses at an altitude of about 10,000 feet. The large leaves are grayish hairy beneath."

56325. *MALUS* sp.

"(No. 6821. November 30, 1922.) A hardy tree 15 to 20 feet in height, found in dense forest on the Salwin Ridge at an altitude of 8,000 feet. The oblong leaves have red veins and petioles and the calyx portion of the oval yellow fruits is drawn out into a beak. The fruit flesh is firm and sour."

56326 and 56327. *MECONOPSIS* spp. Papaveraceæ.

56326. *MECONOPSIS INTEGRIFOLIA* (Maxim.) Franch.

"(No. 6777. October, 1922.) A fine alpine plant 2 feet or more in height found rather commonly at altitudes of 14,000 to 14,500 feet among limestone boulders on the Likang Snow Range. The leaves are linear, with the basal ones forming a rosette, and covered with red hairs. The large bright-yellow flowers are 4 inches across."

For previous introduction, see S. P. I. No. 55957.

56327. *MECONOPSIS RUDIS* Prain.

"(No. 6797. October, 1922.) An alpine plant found on limestone gravel on the Likang Snow Range at altitudes above 16,000 feet. The glaucous leaves are covered with red spines and the satiny blue flowers, 2 inches across, completely cover the spikes, which are 2 feet in length."

56328 and 56329. *OLEA* spp. Oleaceæ.

56328. *OLEA* sp.

"(No. 6737. November 21, 1922.) A large tree 50 feet high, with a trunk a foot in diameter and whitish bark, which grows wild in the forests beyond Wolung and Chienmachin, north of Tengyueh. The narrowly oblong, leathery leaves are dark green, and the small oval, bluish black, juicy fruits are borne in clusters below the leaves."

56329. *OLEA* sp.

"(No. 6741. November 29, 1922.) A tree 30 feet or more in height, found in the Shweli Valley, two days' travel north-east of Tengyueh near Chiangtso and Chuchi. It has elliptical leaves and small oval, bluish black, juicy fruits."

56330 and 56331. *PHOTINIA* spp. Malaceæ.

56330. *PHOTINIA* sp.

"(No. 6800. October, 1922.) A tree 25 feet high from the western slopes of the Likang Snow Range, in the Ashi Road forest, at an altitude of 10,000 to 11,000 feet. The flowers are white and the small orange-red fruits are in large terminal panicles."

56331. *PHOTINIA* sp.

"(No. 6815. October, 1922.) An ornamental shrub 5 to 6 feet high, from limestone meadows in the Likang Snow Range. It has very narrow leaves and clusters of dark carmine fruits."

56288 to 56386—Continued.

56332. *PIERIS* sp. Ericaceæ.

"(No. 7660. November 27, 1922.) A shrub 6 to 8 feet high with white flowers, collected on the summit of Hsuehshanting at an altitude of 11,000 feet."

56333. *PINUS ARMANDI* Franch. Pinaceæ.
Pine.

"(No. 6792. Likang. October, 1922.) A pine tree 90 feet or more tall, with a straight trunk, common at altitudes above 8,000 feet in the northern part of Yunnan; also from the Black River Valley to Talifu and Likang."

For previous introduction, see S. P. I. No. 45914.

56334. *PRIMULA FORRESTII* Balf. f. Primulaceæ.
Primrose.

"(No. 6811. October, 1922.) A perennial plant which becomes 50 years or more in age, with a thick woody rootstock, found among rocks and under trees in rich soil and also among limestone boulders on the Likang Snow Range, at an altitude of 11,000 to 12,000 feet. The large basal leaves have a fresh-apple odor and the rich orange-yellow flowers are in large umbels."

For previous introduction, see S. P. I. No. 48361.

56335. *PRUNUS* sp. Amygdalaceæ. Cherry.

"(No. 6782.) A tree 35 to 40 feet high, which grows on the road from Ashi to the Yangtze River, Likang Snow Range, at an altitude of 10,000 feet. The globose, bluish black fruits are in drooping clusters."

56336 to 56347. *PYRUS* spp. Malaceæ. Pear.

56336. *PYRUS FASHIA* Buch.-Ham.

"(November, 1922.) A handsome tree 30 feet high, with a round crown and dark-green heart-shaped leaves, which grows in southern Yunnan in the valleys south of Puerhfu. The yellowish brown globose pears are the size of marbles. The seeds were secured through Miss Clara Peterson, of the Puerhfu Mission."

For previous introduction, see S. P. I. No. 54998.

56337. *PYRUS* sp.

An unlabeled packet of pear seeds from Yunnan.

56338. *PYRUS* sp.

"(No. 6752. Chintahitze. October, 1922.) A sturdy tree 30 to 40 feet in height, with a dense crown and ascending branches, which grows along watercourses on the eastern side of the Likang Snow Range. The small globose fruits are crimson when ripe."

56339. *PYRUS* sp.

"(No. 6754. October, 1922.) A wild pear from the lower slopes of the Likang Snow Range, where it grows at an altitude of 9,600 feet and forms a tree 30 to 40 feet high. The oval pedicel fruits are crimson when ripe."

56340. *PYRUS* sp.

"(No. 6757. October, 1922.) A very handsome tree 35 to 40 feet high, which grows among limestone boulders along watercourses on the lower slopes of the Likang Snow Range at an altitude of 10,000 feet. The handsome leaves are dark green above and white beneath, with serrate margins and sharp points, and the fruits are small, oval, and red."

56288 to 56386—Continued.

56341. PYRUS sp.

"(No. 6759. Ganhaitze. October, 1922.) A tree very similar to the preceding [S. P. I. No. 56340] but with few fruits, which are pear shaped and yellow. It grows at an altitude of 10,000 feet on the Likiang Snow Range."

56342. PYRUS sp.

"(No. 6761. October, 1922.) A very ornamental tree 30 to 40 feet in height, which grows along watercourses among limestone boulders on the Likiang Snow Range. It has oval dark-green leaves, grayish beneath, and red and yellow fruits the size of bullets."

56343. PYRUS sp.

"(No. 6763. October, 1922.) A tree 40 feet high from the Likiang Snow Range, where it grows at an altitude of 14,000 feet. The large oblong, coarsely toothed leaves are dull green above and white beneath, and the small globose yellow fruits, the size of bullets, are in corymbs."

56344. PYRUS sp.

"(No. 6765. October, 1922.) A wild pear which grows on the road from Ashi to the Yangtze River, Likiang Snow Range, at an altitude of 10,000 feet. It is a tree 30 feet high, with large smooth dark-green leaves and fruits $2\frac{1}{2}$ inches in diameter, yellow, with small russet rings and spots."

56345. PYRUS sp.

"(No. 6766. October, 1922.) A tree 30 feet high, with small crimson fruits, found along stream beds among limestone boulders on the Likiang Snow Range north of Nguluken, at an altitude of 10,000 feet."

56346. PYRUS sp.

"(No. 6767. Likiang. October, 1922.)" Seeds of a domesticated pear.

56347. PYRUS sp.

"(No. 6823. Chinho. October, 1922.) A wild pear collected two days' travel south of Likiang, where it grows as a tree 30 to 40 feet in height, with oval-elliptic leaves and small, spotted, russet-brown fruits the size of bullets. This is used as a stock plant."

56348 to 56354. QUERCUS spp. Fagaceae. Oak.

56348. QUERCUS sp.

"(No. 6748. October, 1922.) An oak tree 30 to 40 feet high, found in the forest on the road to Ashi north of Likiang at an altitude of 12,000 feet. The leaves are large, obovate, and coarsely toothed; the acorns are not bitter."

56349. QUERCUS sp.

"(No. 6794. Ashi. October, 1922.) A tree 50 feet tall, with a trunk 3 feet in diameter, found on the Likiang Snow Range in dry regions near the Yangtze River at an altitude of 9,000 feet. The small pale-green leaves are obovate, and the small acorns have papery involucre."

56350. QUERCUS sp.

"(No. 6817. October, 1922.) A tree 50 to 60 feet tall, from the western slopes of the Likiang Snow Range on the road from Ashi to the Yangtze River, at an altitude of 11,000 feet. It has large sessile, oblong-oval lacinate leaves and small edible sweet acorns."

56288 to 56386—Continued.

56351. QUERCUS sp.

"(No. 6822. November 30, 1922.) A tree 30 to 40 feet high, which grows on the Salwin Ridge at an altitude of 8,000 feet. The leaves are dark glossy green, and the obovoid bitter acorns are in spikes several inches long."

56352. QUERCUS sp.

"(No. 7004. Kuyung. November, 1922.) A tall tree, 70 to 80 feet in height, with trunks 3 to 4 feet in diameter, which grows in sandy soil in the mountains north of Tengyueh, at an altitude of 7,500 feet. The numerous acorns are borne in dense spikes 5 or 6 inches long, the involucre inclosing the acorn."

56353. QUERCUS sp.

"(No. 7005. Kuyung. November, 1922.) Very similar to the preceding [S. P. I. No. 56352], except that the acorns are inclosed in a truncate involucre. The tree, 70 to 80 feet tall with trunks 3 to 4 feet in diameter, grows in sandy soil in the mountains north of Tengyueh at an altitude of 7,500 feet."

56354. QUERCUS sp.

"(No. 7009. Kuyung. November, 1922.) A tall tree 70 to 80 feet in height, with large straight trunks 3 or 4 feet in diameter, which grows in the mountains north of Tengyueh at an altitude of 7,000 to 8,000 feet. The acorns are inclosed in conical involucre and are borne in stout, densely packed spikes."

56355 to 56364. RHODODENDRON spp. Ericaceae.

56355. RHODODENDRON DELAVAYI Franch.

"(Nos. 3012 and 6743. November 27, 1922.) A small tree 15 to 20 feet or more in height, common throughout Yunnan; these seeds were collected on the Salwin-Shwell watershed at an altitude of 8,000 feet. The stiff, spreading narrow leaves are brownish beneath, and the crimson flowers are in large terminal heads."

56356. RHODODENDRON FORTUNEI Lindl.

"(No. 6829. October, 1922.) A shrub or small tree 15 to 20 feet in height, with a trunk a foot in diameter, which grows on the Likiang Snow Range at altitudes of 9,000 to 11,000 feet. The leaves are large and smooth and the large, exceedingly handsome, fragrant light-pink flowers are in large terminal clusters."

56357. RHODODENDRON HELIOLEPIS Franch.

"(No. 6828. October, 1922.) A beautiful compact shrub 10 to 15 feet high, which grows on the edge of alpine meadows in large groves at an altitude of 12,500 feet. In early spring the plant is one mass of flowers; these are lavender with the lower lip purple spotted."

56358. RHODODENDRON TALIENSE Franch.

"(No. 6832. October, 1922.) A shrub 15 feet high, which grows on the upper slopes of the Likiang Snow Range at altitudes of 15,000 to 15,500 feet among limestone boulders. The leaves are large and whitish mealy beneath, and the large light-pink flowers are in terminal clusters."

56359. RHODODENDRON sp.

An unlabeled packet of rhododendron seeds.

56288 to 56386—Continued.

56360. RHODODENDRON sp.

"(No. 6744. November 28, 1922.) A shrub or small tree which grows on the summit of the Salwin Ridge (Shweli-Salwin Divide) at altitudes of 10,000 to 11,000 feet, in a forest one stage from Chiangso. The pale-green oblong leaves are whitish beneath, and the flowers, which vary from pink to red, are terminal. The fruits are black and hairy."

56361. RHODODENDRON sp.

"(No. 6745. Hsuehshanting. November 28, 1922.) A shrub 5 to 10 feet high, dense brownish woolly throughout, which is not uncommon on the summit of the Salwin-Shweli watershed at altitudes of 8,000 to 10,000 feet. The flowers are red and are borne at the ends of the branches."

56362. RHODODENDRON sp.

"(No. 6826. October, 1922.) A very handsome shrub 10 to 12 feet high, which occurs on the edge of alpine meadows on the Likiang Snow Range at altitudes of 14,000 to 15,000 feet. The leaves are small and elliptical, and the rich purple flowers an inch and a half wide are in terminal clusters."

56363. RHODODENDRON sp.

"(No. 6827. October, 1922.) A shrub 6 to 10 feet high, found among limestone boulders on the Likiang Snow Range at an altitude of 11,000 feet. The leaves are small and elliptical, white beneath when young, and the flowers, pink with spotted red lower lips, are in terminal clusters."

56364. RHODODENDRON sp.

"(No. 6830. October, 1922.) A shrub 2 feet high, found in rather dry situations in pine forests on the Likiang Snow Range at an altitude of 11,000 feet. It has small elliptical leaves and small but handsome bluish purple flowers."

56365 and 56366. RIBES spp. Grossulariaceæ.

56365. RIBES sp. Currant.

"(No. 6778. October, 1922.) A shrub 3 feet high, with maplelike leaves and long drooping racemes of large oval carmine fruits which are edible, with a sweet acid flavor. This shrub grows on the Likiang Snow Range at an altitude of 15,000 feet."

56366. RIBES sp.

"(No. 6780. October, 1922.) A shrub 4 feet high which grows on the Likiang Snow Range at an altitude of 15,000 feet. The leaves are small and maplelike, and the small oval black fruits, crowned by the persistent calyx, are insipid."

56367 and 56368. ROSA spp. Rosaceæ. Rose.

56367. ROSA sp.

"(No. 6747. November, 1922.) A handsome climbing shrub 16 or 18 feet high, from the Likiang Snow Range at an altitude of 11,000 feet, near Yulungtsuin. The white flowers are 2 inches across and the fruits are oval and red."

56368. ROSA sp.

"(No. 6795. October, 1922.) A shrub 8 feet high, with small white flowers and round red fruits, found along water-courses back of Ngulukeu on the Likiang Snow Range at altitudes of 9,000 to 10,000 feet."

56288 to 56386—Continued.

56369. RUBUS LUTESCENS Franch.

"(No. 6749. October, 1922.) This is perhaps the best raspberry of the Likiang Snow Range, where it grows as a small shrub a foot or two high on the western slopes at an altitude of 15,000 feet. The leaves are small and the large deep orange-yellow berries are sweet and very delicious."

56370. SCHIZANDRA AXILLARIS (Blume) Hook. f. and Thoms. Magnoliaceæ.

"(No. 6825. October, 1922.) An ornamental climber which occurs in fir forests on the Likiang Snow Range at altitudes of 11,500 to 12,000 feet. The axillary flowers are magenta in color."

56371 and 56372. SMILAX spp. Smilacaceæ. Smilax.

56371. SMILAX sp.

"(No. 6746. November 29, 1922.) A handsome, climbing, thorny shrub which grows on the Shweli-Salwin Divide, in open scrub forest at altitudes of 6,000 to 7,000 feet. The leaves are small and oval and the berries scarlet."

56372. SMILAX sp.

"(No. 6808. October, 1922.) An attractive climber which occurs in fir forests on the Likiang Snow Range at an altitude of 10,000 feet."

56373 to 56376. SORBUS spp. Malaceæ. Mountain ash.

56373. SORBUS sp.

"(No. 6775. October, 1922.) An ornamental tree 25 feet high, with small pinnate leaves, which grows on the road from Ashi to the Yangtze River, Likiang Snow Range, at an altitude of 10,000 feet. The white fruits are in large clusters."

56374. SORBUS sp.

"(No. 6776. October, 1922.) An ornamental tree 25 to 30 feet high, with large pinnate leaves, which grows on the road from Ashi to the Yangtze River, Likiang Snow Range, at altitudes of 10,000 to 11,000 feet. The white fruits are in large clusters."

56375. SORBUS sp.

"(No. 6779. October, 1922.) A shrub 15 or 16 feet high, found on the Likiang Snow Range at an altitude of about 12,000 feet. The leaves are narrowly pinnate, and the red fruits are in large clusters."

56376. SORBUS sp.

"(No. 6785. October, 1922.) A tree 20 feet in height which grows in forests of *Abies forrestii* on the Likiang Snow Range at an altitude of 12,000 feet. It is very ornamental because of the large clusters of round red berries."

56377. TILIA sp. Tiliaceæ.

"(No. 6801. October, 1922.) A tree 35 to 40 feet high, with large heart-shaped leaves and fragrant flowers, found along water-courses among limestone boulders on the Likiang Snow Range at an altitude of 11,000 to 12,000 feet."

56378. VACCINIUM sp. Vacciniaceæ.

"(No. 6796. October, 1922.) A bushy shrub 2 to 3 feet high, found under pine trees on the Likiang Snow Range at an altitude of 10,000 to 11,000 feet. The small black berries are edible."

56288 to 56386—Continued.

56379 to 56385. *VIBURNUM* spp. Caprifoliaceæ.

56379. *VIBURNUM* sp.

"(No. 6770. October, 1922.) A handsome shrub 15 feet high from alpine meadows and steep slopes of the Likiang Snow Range, where it grows at an altitude of 12,500 feet. It has small wedge-shaped leaves and large corymbs of crimson or carmine berries."

56380. *VIBURNUM* sp.

"(No. 6771. October, 1922.) A very attractive shrub 4 feet in height with maplike leaves, found growing among limestone boulders in the Likiang Snow Range at an altitude of 15,000 feet. The oval crimson berries are in loose panicles."

56381. *VIBURNUM* sp.

"(No. 6772. October, 1922.) A handsome shrub or small tree 15 feet high, with smooth oval leaves and small drooping clusters of scarlet berries, found on the slopes of the Likiang Snow Range at an altitude of 12,000 feet."

56382. *VIBURNUM* sp.

"(No. 6773. October, 1922.) A shrub 4 or 5 feet high which grows on the eastern end of the Likiang Plain among limestone rocks, at an altitude of 10,000 feet. It has small hairy oval leaves and large drooping panicles of rich carmine berries."

56383. *VIBURNUM* sp.

"(No. 6774. October, 1922.) An attractive shrub 6 to 10 feet high, with large hairy, broadly oval leaves and large clusters of carmine-crimson berries. It grows in alpine meadows on the Likiang Snow Range at an altitude of 11,000 feet."

56384. *VIBURNUM* sp.

"(No. 6786. October, 1922.) A tall shrub 12 to 15 feet in height, which grows at an altitude of 12,000 to 13,000 feet on the Likiang Snow Range. The leaves are smooth and uniformly green, and the crimson berries are in large terminal corymbs."

56385. *VIBURNUM* sp.

"(No. 6820. November 30, 1922.) An exceedingly handsome shrub 20 feet tall, with large oval leaves and huge terminal clusters of large transparent scarlet berries, found on the summit of the Salwin Ridge at an altitude of 8,000 feet. The juice is used by the natives in pickling turnip leaves."

56386. (Undetermined.)

"(No. 6831. October, 1922.) A handsome tree 15 to 20 feet high, which grows on the western slopes of the Likiang Snow Range at an altitude of 11,000 feet. The large oblong leaves are brownish woolly beneath, and the deep pink or red flowers are in large corymbs."

56387. *MEIBOMIA* sp. Fabaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received February 7, 1923.

"(No. 6783. October, 1922.) An ornamental bush 10 feet high, with very attractive deep pink flowers, found on the western and eastern slopes of the Likiang Snow Range at an altitude of 10,000 feet."

56388. *FESTUCA OVINA* NOVO-ZELANDIAE Hack. Poaceæ.

Fescue tussock grass.

From Stanley, Falkland Islands. Seeds presented by the Colonial Secretary. Received January 18, 1923.

Introduced for testing as a forage plant.

A densely tufted perennial grass with culms 12 to 20 inches high and erect, very narrow, cylindric, sharply pointed rough leaves almost as long as the culms. This grass is native to North Island, New Zealand. (Adapted from *Cheeseman, Manual of the New Zealand Flora*, p. 917.)

56389. *DIOSPYROS KAKI* L. f. *Diospyraceæ*. **Kaki.**

From Yokohama, Japan. Seeds purchased from the Yokohama Nursery Co. Received February 12, 1923.

A semiwild variety with a long pointed fruit used by Japanese nurserymen as a stock plant on which to graft the cultivated kakis.

56390 to 56398.

From China. Seeds presented by C. A. Reed, Bureau of Plant Industry. Received January 10, 1923. Quoted notes by Mr. Reed, unless otherwise stated.

56390. *ÆSCULUS WILSONI* Rehder. *Æsculaceæ*. **Horsechestnut.**

"(No. 22c. Peking.) Obtained from J. Hers, secretary general, Lunghai Railway Co."

A horsechestnut native to Szechwan and Hupeh, China, which is very closely allied to *Æsculus chinensis*, from which it differs only in a few minor characters. It is a large tree with leaves which are downy when young and white flowers borne in racemes which sometimes become 16 inches in length. The burs are rough but not spiny.

56391. *ARACHIS HYPOGAEA* L. Fabaceæ. **Peanut.**

"(No. 45gc. Hangchow, Chekiang.) Typical specimens obtained in the market."

56392 to 56397. *CASTANEA MOLLISSIMA* Blume. Fabaceæ. **Chestnut.**

56392. "(No. 17c. Hsinchuang, Chihli.) Nuts obtained from wild trees growing about 32 li (about 9 miles) north of the Ming tombs, among walnut trees of various species. The nuts are of fair size and quality, although not equal to those of S. P. I. No. 56397 from the Lanchow-Changli district, Chihli."

56393. "(No. 18c. Anshan, Chihli. October, 1922.) Nuts obtained on the streets of Anshan, a railroad station between Lanchow and Changli; perhaps originally from north of Lanchow. There are many orchards containing a hundred trees or more about a day's travel north of Lanchow."

56394. "(No. 20c. Tsinan, Shantung.) Typical nuts obtained in the market; probably grown in a chestnut district 15 or 20 miles north of Tsinan."

56395. "(No. 21c. Yihhsien, Shantung.) Typical nuts purchased on the streets."

56396. "(No. 34c. Shihkiachwang, Chihli.) Typical specimens from the market."

56397. "(Nos. 58c and 59c. Vanchiachuan, near Gupu, in the Lanchow-Changli district. October 15, 1922.)



A PROMISING CHESTNUT FROM NORTHERN CHINA. (*CASTANEA MOLLISSIMA* BLUME; S. P. I. NO. 56397)

The rapidly progressing destruction of native American chestnut forests by blight has focused the attention of horticulturists upon this Chinese species, which has already shown its adaptability to climatic and soil conditions in this country as well as a remarkable degree of resistance to the disease. It is promising not only as a source of tannin but also for its edible nuts, which are nearly as large and as good as those of the native American chestnut. The attention of the Department of Agriculture was first directed to this species by the late Frank N. Meyer, Agricultural Explorer. (Photographed by C. A. Reed, Vanchiachuan, Chihli, China, September 7, 1922; P36689FS)



PREPARING WALNUTS IN CHINA FOR EXPORT. (JUGLANS REGIA L.; S. P. I. No. 56418)

According to an estimate made by an official of the United States Department of Commerce, more than 8,000 tons of walnuts were produced in northern China during the year 1921. While less than half this quantity was exported to other countries, the rapid improvement of transportation facilities is almost certain to give an immense stimulus to this industry in China. Few orchards have as yet been planted, however; the bulk of the crop is harvested from scattered trees. The illustration shows the nuts being sun dried in the market place of Wullpu, Shantung Province. (Photographed by C. A. Reed, September 15, 1922; P36739F5)

56390 to 56398—Continued.

A large tree with decidedly sweet nuts."

For an illustration of this chestnut, see Plate III.

56398. *CHAETOCLOA ITALICA* (L.) Scribn. Poaceæ. (*Setaria italica* Beauv.) Millet.

"(No. 60c. Peking, Chihli.) Millet forms one of the most important cereal foods of the natives of northern China. I consider it delightful as a breakfast food, although among the Chinese it is classed with sweet potatoes as 'coolie food.' There are many varieties ranging in height up to 3 or 4 or even 6 feet, and there are said to be two distinct groups, the ordinary kind and the glutinous kind."

56399 and 56400.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Gardens. Received January 8, 1923.

56399. *ACER STERCULIACEUM* Wall. Aceraceæ. (*A. villosum* Wall.) Maple.

A handsome tree with gray bark, native to the northwestern parts of the Himalayas at altitudes of 7,000 to 9,000 feet. It sometimes reaches a height of 80 feet. The thin shining-green leaves are occasionally used for fodder, and the white close-grained wood is beautifully mottled.

56400. *BETULA UTILIS* D. Don. Betulaceæ. (*B. bhojpattri* Wall.) Birch.

A tree about 60 feet in height, with creamy white trunk and branches and bark which peels off in papery flakes. It is native to subtropical regions of the Himalayas. The oval, coarsely toothed, sharp-pointed leaves are dark green above and paler beneath, and 3 inches long. In winter the orange-chocolate color of the twigs is very striking.

56401 to 56437.

From China. Seeds presented by C. A. Reed, Bureau of Plant Industry. Received January 10, 1923. Quoted notes by Mr. Reed, unless otherwise stated.

56401 to 56403. *CORYLUS* spp. Betulaceæ. Filbert.

56401. *CORYLUS* sp.

"(No. 34ac. Shihkiachwang, Chihli.) Typical nuts from the market, said to have come from trees growing 100 miles south of the town."

56402. *CORYLUS* sp.

"(No. 45fc. Hangchow, Chekiang.) Nuts bought in the local market, but evidently brought from some distance, presumably western China."

56403. *CORYLUS* sp.

"(No. 65c. Hwailai, Chihli.) Nuts collected from wild plants growing along the mountainous roadway southeast of the Trappist Monastery."

56404. *HOLCUS SORGHUM* L. Poaceæ. (*Sorghum vulgare* Pers.) Sorghum.

"(No. 42c. Taiyuan, Shansi.) Typical specimens from the market."

56405 to 56426. *JUGLANS* spp. Juglandaceæ.

56405 to 56408. *JUGLANS MANDSHURICA* Maxim. Manchurian walnut.

56405. "(No. 10c. Nankow Pass, near Nankow, Chihli.) Obtained through J. Hers, of Peking. An uncultivated species with small thick-shelled nuts, not valued very highly by the natives. None of the

56401 to 56437—Continued.

trees were of large size, 30 feet being the maximum height, with an average height of less than 20 feet. In habit this species resembles *Juglans sieboldiana*."

56406. "(No. 19c. Hsinghuang, Chihli. August, 1922.) Collected in a valley north of the Ming tombs."

56407. "(No. 45ac. Nanking, Kiangsui.) Nuts taken from a tree near the residence of the president of the University of Nanking. The nuts of this species are known here as 'butternuts,' as they are also throughout Chosen and Manchuria."

56408. "(No. 63c. Hwailai, Chihli.) Nuts obtained from wild trees growing southeast of the Trappist Monastery not far from the Great Wall of China."

56409 to 56425. *JUGLANS REGIA* L. Walnut.

56409. "(Nos. 1c, 3c, 4c, 5c, 53c, and 54c. Hwailai, Chihli.) Nuts obtained from thrifty seedling trees in the vicinity of the Trappist Monastery. This place, which has an altitude of about 2,500 feet, is near the northernmost limit at which Persian walnuts are found in China. With these walnut trees were apricots, plums, pears, and peaches."

56410. "(No. 2c. Pienshih, Shansi.) Nuts obtained from a farmer living near Pienshih, a half day's travel west of Fenchow. This is an arid mountainous region with loess soil, subject to severe winters with little precipitation. The temperature falls gradually in the autumn, however, and rises gradually in the spring, which may account for the successful raising of walnuts here and in other parts of northern China."

56411. "(No. 6c. Yihsien, Shantung. October 15, 1922.) Nuts from a young seedling tree in the garden of K. M. Gordon. These nuts ripened on the tree and are of good quality. Usually the walnut crop of China is clubbed from the trees two to five weeks before ripening and the nuts covered with straw and left to sweat and wilt for a period of five to eight days. The hulls are then removed, the nuts superficially cured and then placed on the market."

56412. "(No. 7c. Tsinghua, Honan.) Nuts selected in the market by J. L. Buck, of the University of Nanking, as being typical for that locality."

56413. "(No. 8c. Sinsiang, Honan.) Nuts selected by J. L. Buck, of the University of Nanking, as being typical for that locality."

56414. "(No. 9c. Peking.) From the curio stands on Hattamen Street. Nuts large, very rough, with exceedingly thick, hard shells."

56415. "(No. 11c. Tsingchow, Shantung.) Nuts with very hard shells, purchased in the market and said to have come originally from western China."

56416. "(No. 12c. Tsinan, Shantung.) Typical nuts from the market."

56401 to 56437—Continued.

56417. "(No. 13c. Yih sien, Shantung.) Typical nuts from the market."

56418. "(No. 14c. Wulipu, Shantung.) Typical nuts from the market of this town, which is about 1½ miles southwest of Tsingchow."

For an illustration of this, see Plate IV.

56419. "(No. 15c. Shangyen, Shantung.) Typical nuts from the market."

56420. "(No. 16c. Tsingchow, Shantung. September 15, 1922.) Typical nuts from an orchard about 2½ miles southwest of Tsingchow."

56421. "(No. 39c. Fenchow, Shansi.) Typical nuts from a nut-cracking establishment."

56422. "(Nos. 52c and 55c. Hsin-chuang, Chihli.) Large, rough, thick-shelled nuts from wild trees."

56423. "(No. 56c.) Exact source for these nuts in China not known."

56424. "(No. 57c. Tsinan, Shantung.) Typical nuts from the market."

56425. "(No. 64c.) Exact source for these nuts in China not known."

56426. JUGLANS sp. Walnut.

"(Nos. 47c, 48c, 50c, and 51c. Hsin-chuang, Chihli.) Local types of walnuts."

56427. LENTILLA LENS (L.) W. F. Wight. Fabaceae. (*Lens esculenta* Moench.) Lentil.

"(No. 25c. Yih sien, Shantung.) Lentil seeds obtained in the market."

56428. PHASEOLUS AUREUS Roxb. Fabaceae. Mung bean.

"(No. 31c. Yih sien, Shantung.) Purchased on the streets."

56429. PINUS BUNGEANA Zucc. Pinaceae. White-barked pine.

"(Nos. 40c and 49c. Shansi.) Seeds from a planted forest east of Pingting. The erect, slender trees were not more than 20 or 25 feet tall. The wood was found to be very brittle."

56430 to 56434. SOJA MAX (L.) Piper. Fabaceae. (*Glycine hispida* Maxim.) Soybean.

56430 and 56431. ("Nos. 28c and 29c. Yih sien, Shantung.) Bought on the street."

56430. Yellow beans.

56431. Black beans.

56432 and 56433. ("Nos. 37c and 38c. Taiyuan, Shansi.) From the market."

56432. Big roundish yellow beans.

56433. Black beans.

56434. "(No. 43c. Taiyuan, Shansi.) From the market."

Green roundish beans.

56435 to 56437. VIGNA SINENSIS (Tornei) Savi. Fabaceae. Cowpea.

56435. ("No. 26c. Yih sien, Shantung.) From the market."

Red string beans.

56436. "(No. 30c. Yih sien, Shantung.) From the market."

White string beans.

56401 to 56437—Continued.

56437. "(No. 41c. Taiyuan, Shansi.) From the market."
Pinkish beans.

56438. WASABIA PUNGENS Mats. Brassicaceae. (*Eutrema wasabi* Maxim.)

From Yokohama, Japan. Plants purchased from the Yokohama Nursery Co. Received February 5, 1923.

A Japanese perennial belonging to the mustard family, with large bright-green, heart-shaped, long-stemmed leaves and white flowers borne in clusters on a flowering stalk over 3 feet in height. The long roots are about an inch in diameter, grayish, with many knots. In the humid valleys in Japan this plant is often spontaneous and is much cultivated on the banks of little streams near dwellings. The grafted roots are used in the same manner as ordinary horse-radish and by many are considered to be superior in all ways. (Adapted from *Vilmorin-Andrieux & Co., Les Plantes Potagères*, p. 646.)

For previous introduction, see S. P. I. No. 41567.

56439. CASTANEA sp. Fagaceae. Chestnut.

From Lancaster, Pa. Nuts presented by J. F. Jones. Received February 3, 1923.

"Nuts sent to me by the Kinshan Arboretum, near Shanghai, China. I do not know where they were originally collected." (Jones.)

56440. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Milan, Italy. Seeds purchased from Fratelli Ingegnoli. Received February 19, 1923.

"This clover was grown in clay soil in dry regions in the mountains of central Italy at an altitude of about 1,300 feet, where the climate is hot and the rains infrequent. Olives are grown in the same regions." (Fratelli Ingegnoli.)

56441. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Budapest, Hungary. Seeds purchased from the Hungarian Seed Culture Co. Received February 10, 1923.

Locally grown Hungarian red-clover seed introduced for department specialists engaged in clover-breeding experiments.

56442 to 56444.

From Ibarra, Ecuador. Seeds presented by José Felix Tamayo. Received February 10, 1923. Quoted notes by Señor Tamayo.

56442 and 56443. PHASEOLUS spp. Fabaceae.

56442. PHASEOLUS COCCINEUS L. Scarlet Runner bean.

"A wild perennial climber with brown beans which grows here in Ibarra and in the Chota Valley."

56443. PHASEOLUS LUNATUS L. Lima bean.

"Perennial climbing plants which grow at altitudes of 5,000 to 8,000 feet in arid or semiarid places where there is an abundant supply of water available."

56444. VIGNA SINENSIS (Tornei) Savi. Fabaceae. Cowpea.

"A small wild annual, said to be of bushy habit, from the hot humid region in the lower part of the Rio Mira, where the beans are eaten by the natives."

56445. HYDNOCARPUS ALPINA Wight.
Flacourtiaceæ.

From Orleans, France. Seeds presented by Edmond Versin, St. Jean le Blanc. Received January 18, 1923.

Introduced for study because of its close relationship to *Taraktogenos kurzii*, the source of the genuine chaulmoogra oil.

A large tree 70 to 100 feet in height, with very variable leaves (red when young and deep green when old), up to 7 inches in length and $2\frac{1}{2}$ inches in width, and dioecious flowers in axillary racemes. The fruit is globose, about the size of an apple, with a brown hairy surface. The seeds yield an oil which is used as fuel, and the wood is employed for general carpentry. The tree is native to the Nilghiri Hills in southern India. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 4, p. 303, and *Hooker, Flora of British India*, vol. 1, p. 197.)

56446 to 56449.

From Cuenca, Ecuador. Seeds presented by Dr. Federico Malo. Received February 9, 1923. Quoted notes by Doctor Malo.

56448. MEDICAGO SATIVA L. Fabaceæ. Alfalfa.

"(Guanando, Province of Chimborazo. November, 1922.) A celebrated variety."

56447 to 56449. ZEA MAYS L. Poaceæ. Corn.

56447. "(Vicinity of Valle, Province of Azuay.) *Maiz blanco*, the largest and best variety of this region."

56448. "*Maiz jesuita*. A variety of the quality of *Maiz blanco*, but with pink kernels. From this the natives make 'mote,' the best one of their favorite dishes."

56449. "(Azogues, Province of Canar, and Province of Azuay. December, 1922.) *Maiz zhima*, a very resistant variety with pearl-colored kernels."

56450 and 56451.

From Elstree, Herts, England. Seed presented by Vicary Gibbs, Aldenham House Gardens. Received February 8, 1923.

56450. COTONEASTER FRIGIDA Wall. Malacæ.

Variety *vicarii*. This is an improved form with deep-green leaves, grayish beneath, and large clusters of rich-red berries which are larger and brighter than those of the typical species.

56451. PYRACANTHA GIBBSII A. Jackson. Malacæ. Firethorn.

A fine ornamental evergreen bush, vigorous and hardy, native to Hupeh and Szechwan, China. It becomes 12 to 14 feet high, is nearly spineless, and in the autumn bears large clusters of scarlet berries which contrast admirably with the glossy dark-green foliage.

For previous introduction, see S. P. I. No. 52938.

56452. CASSIA BREWSTERI F. Muell.
Cæsalpiniaceæ.

From Brisbane, Queensland. Seeds presented by E. W. Bick, curator, Brisbane Botanic Gardens. Received February 14, 1923.

A shrub or small tree found in hilly pastures and on river banks in northern Queensland. It becomes 30 or 40 feet high and bears yellow flowers in axillary clusters 3 to 6 inches long. The thick pods are often a foot in length. The pale-yellow close-grained wood is prettily marked. (Adapted from *Bailey, Queensland Flora*, pt. 2, p. 455.)

56453 to 56456. ACER spp. **Acera-**
Maple.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Gardens. Received January 8, 1923.

56453. ACER CAUDATUM Wall.

A large tree with dark-gray bark and 5-lobed red-stemmed leaves $2\frac{1}{2}$ to 5 inches long. The shiny, compact, moderately hard wood is white with a faint pink tinge. This maple is found in the temperate Himalayas at altitudes of 7,000 to 11,000 feet.

56454. ACER HOOKERI Miquel.

A tree 40 to 50 feet high with deeply fissured brown bark, native to the Sikkim Himalayas at altitudes of 8,000 to 10,000 feet. The oval leaves are not lobed and, though usually green, are sometimes copper colored. The wood is gray, with small pores and very numerous fine red medullary rays.

For previous introduction, see S. P. I. No. 47630.

56455. ACER PECTINATUM Wall.

A small maple closely related to *Acer caudatum*, from which it differs chiefly in foliage characters. It is common in the Sikkim Himalayas at altitudes of 8,000 to 12,000 feet.

56456. ACER SIKKIMENSE Miquel.

A small tree with thin gray bark, native to the eastern temperate Himalayas at altitudes of 7,000 to 9,000 feet. The leaves are undivided and up to 6 inches in length. The wood is a shining gray with distinct annual rings, with numerous fine medullary rays.

56457. DENDROCALAMUS SIKKIMENSIS
Gamble. Poaceæ. **Bamboo.**

From Sibpur, Calcutta, India. Seeds obtained from the Royal Botanic Garden, Sibpur, and presented by E. M. Ehrhorn, Division of Plant Inspection, Honolulu, Hawaii. Received January 17, 1923.

A beautiful tufted bamboo native to Sikkim, India, where the dark-green culms reach a height of 60 feet or more and a diameter of 5 to 7 inches. The species is easily distinguished by its large reddish brown, globular flower heads and densely velvety stem sheath. The long narrow leaves are said to be poisonous, and from the stems are made the "chunga," or native buckets, used for carrying water and milk and for churning. (Adapted from *Annals of the Royal Botanic Garden*, vol. 7, p. 82.)

For previous introduction, see S. P. I. No. 55815.

56458. TRIFOLIUM JOHNSTONI Oliver.
Fabaceæ. **Clover.**

From Kilossa, Tanganyika Territory, East Africa. Seeds presented by Capt. Charles M. F. Swynnerton, Kilossa, through Dr. H. L. Shantz, Bureau of Plant Industry. Received January 17, 1923.

"At high altitudes in East Africa clover is one of the prominent forage plants. It grows where the temperature probably never exceeds 85° F. and where for the greater part of the year it is much below this point. However, no frosts occur in the region." (*Shantz*.)

A smooth perennial clover with the habit of white clover (*Trifolium repens*), found at an altitude of 10,000 feet on Kilimanjaro, Tanganyika Territory. The leaves are long stemmed, with membranous leaflets and globose flower heads about an inch in diameter. (Adapted from *Transactions of the Linnean Society*, 2d ser., vol. 2, p. 331.)

56459 and 56460. MALUS spp. Malaceæ. Apple.

From western Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received January 18, 1923. Quoted notes by Mr. Rock.

56459. *MALUS* sp.

"(No. 6724. November 9, 1922.) A wild apple tree 30 feet high, with wide-spreading branches, found in sandy soil along water-courses between Tsinchi and Chansi on the Tengyueh-Sadon Trail, at an altitude of 6,500 feet. The very numerous dark-carmine long-stemmed fruits are the size of small cherries."

56460. *MALUS* sp.

"(No. 6734. November 12, 1922.) A wild apple tree 25 feet high, with long whiplike ascending branches, found in sandy loam on the hills back of Mengka at an altitude of 5,700 feet. The dark-carmine fruits are half an inch in diameter."

56461. CASTANOPSIS ARGENTEA (Blume) A. DC. Fagaceæ. Chestnut.

From Buitenzorg, Java. Seeds presented by Carl Hartley. Received January 18, 1923.

"Seeds of this edible chestnut were collected in western Java." (Hartley.)

An evergreen tree 50 to 60 feet high, with narrow thin leaves 5 to 7 inches long and very dense clusters of spiny burs; each bur is about 2 inches wide and contains normally a single nut an inch in diameter.

For previous introduction, see S. P. I. No. 55811.

56462. DATURA INNOXIA Mill. Solanaceæ.

From San Luis Potosi, S. L. P., Mexico. Seeds purchased through Walter F. Boyle, American consul. Received January 18, 1923.

Introduced for the use of specialists studying the genus *Datura*.

A plant with a purplish stem 3 to 4 feet high, with several strong branches and oblong heart-shaped leaves. The large erect, axillary white flowers are succeeded by oval fruits which are covered with long, soft, harmless spines. (Adapted from *Journal of the Washington Academy of Sciences*, vol. 11, p. 179.)

56463. EUTERPE EDULIS Mart. Phœnicaceæ. Palm.

From Georgetown, Demerara, British Guiana. Seeds presented by R. Ward, superintendent, Botanic Gardens, through Dr. B. E. Dahlgren, of the Field Museum, Chicago, Ill. Received January 18, 1923.

A shade-loving palm with a slender, generally inclined trunk 30 to 40 feet in height and edible fruits about the size of marbles. The inhabitants of Para, Brazil, where this palm is native, prepare a nutritious beverage from the thin coating of fibrous flesh surrounding the seed.

56464 to 56471. SACCHARUM OFFICINARUM L. Poaceæ. Sugarcane.

From Georgetown, Demerara, British Guiana. Seeds presented by James Crabtree, superintendent, British Guiana Sugar-Planters' Experiment Station. Received January 19, 1923. Quoted notes by Mr. Crabtree.

"All of the following varieties grow strongly here and do not appear to suffer from any disease, except leaf spots on the Java seedlings. I have never seen any evidence of mosaic disease on them. These are not regarded as good commercial varieties here. The minimum temperature in the sugar belt is 70° F."

56464 to 56471—Continued.

56464. *Java* 139.

56465. *Java* 238.

"The three following varieties are very closely similar."

56466. *Bamboo*.

56467. *Uba*.

For previous introduction, see S. P. I. No. 41154.

56468. *Zwinga*.

"The following thin purple canes are probably Indian; they produce fertile seeds and the seedlings resemble the parent fairly closely."

56469. *Brekeret*.

56470. *Kamba Kamba Sati*.

56471. *Kara Kara Wa*.

56472 to 56477.

From Yunnan, China. Collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received January 24, 1923. Quoted notes by Mr. Rock.

56472. *CASTANOPSIS* sp. Fagaceæ. Chestnut.

"(No. 6729. Mengka. October 12, 1922.) Seeds of a tree 50 to 60 feet high, which grows in the mountains at an altitude of 6,500 feet. The glossy glabrous leaves are ovate-acuminate and toothed near the apices, and the burs, an inch to an inch and a half in diameter, inclose two or three brown hairy nuts in each bur. The bur is quite similar to that of *Castanopsis armata*."

56473. *LIGUSTRUM* sp. Oleaceæ. Privet.

"(No. 7670. November 30, 1922.) Seeds of a small tree 20 to 60 feet high, found in dense forest on the Salwin Ridge at an altitude of 8,000 feet. This is evidently a very ornamental tree, judging by the large panicles, which bear numerous bluish black fruits."

56474 and 56475. *MALUS* spp. Malaceæ.

Apple.

56474. *MALUS* sp.

"(Puerhfu. December, 1922.) Seeds of a wild apple tree which grows in the hills at an altitude of 6,000 feet. The small globose fruits are yellowish with a tinge of pink on the sun-exposed side. Obtained through Miss Clara Peterson, a missionary of Puerhfu."

56475. *MALUS* sp.

"(Puerhfu. December 6, 1922.) Seeds of a wild apple tree obtained from the hills at an altitude of 6,000 feet, by Miss Clara Peterson, a missionary of Puerhfu."

56476. *PYRUS* sp. Malaceæ.

Pear.

"(Szemao. December, 1922.) Seeds of a wild pear tree from the mountains; obtained through Miss Clara Peterson, a missionary of Puerhfu."

56477. *ROSA* sp. Rosaceæ.

Rose.

"(December 3, 1922.) Cuttings of a wild rose found in the valley of the Upper Salwin. It is very attractive with thousands of large white flowers, each 3 inches across, and could easily be trained on arbors. Strange to say, the flowers are double; perhaps it is a sport."

56478 to 56482. SACCHARUM OFFICINARUM L. Poaceæ. Sugarcane.

From Santiago de las Vegas, Cuba. Seeds presented by Dr. Mario Calvino, Estación Experimental Agronómica. Received January 25, 1923. Quoted notes by Doctor Calvino.

"All of these are good sugar-producing canes but are subject to yellow-stripe disease."

56478. "Cuba 450. Seedling of *Demerara 419*, obtained in 1917-1918."

56479. "Cuba 519. Seedling of *Demerara 99* obtained in 1918-1919."

56480. "*Demerara 74*."

56481. "*Demerara 99*."

56482. "*Demerara 108*."

56483 to 56487.

From Loanda, Angola, Africa. Seeds presented by John Gossweiler. Received January 30, 1923.

56483. *ASPARAGUS AFRICANUS* Lam. Con-vallariaceæ.

"This asparagus is a great delicacy and in my opinion better than any of the cultivated kinds." (Sir Percy Fitzpatrick, in note under S. P. I. No. 32271.)

A much-branched tall shrub native to many places in tropical and South Africa. The main branches are woody, and the leaves are spiny at the base. The 1-seeded berries are a sixth of an inch in diameter. (Adapted from *Thiselton-Dyer, Flora of Tropical Africa*, vol. 7, p. 433.)

56484. *MELINIS MINUTIFLORA* Beauv. Poaceæ. Molasses grass.

"John Morley, of Lake Alfred, Fla., informed me that the molasses grass (*Melinis minutiflora*) was so successful on his place that he is going to get a large quantity of seeds for the planting of a very considerable area of it. He said the trouble which other people who had tried to use this grass experienced was, apparently, that they did not keep it grazed or cut closely enough. When permitted to grow unmolested it is likely to get rank." (David Fairchild.)

For previous introduction, see S. P. I. No. 54680.

56485. *MUSA GILLETII* Wildem. Musaceæ. Banana.

A close relative of the Abyssinian banana (*Musa ensata*), native to the vicinity of Kisantu, Belgian Congo. It is a plant up to 6½ feet high, with the lower leaves reaching a length of 5 feet and the upper leaves becoming smaller and smaller until they merge into the floral bracts. The fruits, 2 inches long, are oblong and somewhat pear shaped, with a grayish surface irregularly marked because of the prominence of the seeds. The powdery pulp incloses shiny black seeds. (Adapted from *Revue des Cultures Coloniales*, vol. 8, p. 102.)

56486. *RUMEX ABYSSINICUS* Jacq. Polygonaceæ.

"This *Rumex* has proved a most interesting plant, reaching a height of from 7 to 8 feet in one season and yielding, from the first of June all through the summer, an abundance of succulent green leaves which make an excellent substitute for spinach. It promises to be an excellent plant for our Southern States where summer green-leaved vegetables are very scarce." (Peter Bisset.)

For previous introduction, see S. P. I. No. 48023.

56487. *NATHUSIA ALATA* Hochst. Oleaceæ. (*Schrebera alata* Hochst.)

A tree of moderate size, native to Abyssinia and parts of British East Africa, with large compound leaves having winged stems and small white flowers, tinged with lilac, borne in lax terminal clusters. The timber is very hard.

56488 to 56494.

From China. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received February 9, 1923. Quoted notes by Mr. Rock.

56488. *CASTANEA* sp. Fagaceæ. Chestnut.

"(No. 6436. October, 1922.) A tall tree 60 to 70 feet high, with a trunk 3 to 4 feet in diameter, found wild in a dry district of the Shiku Valley, Yangtze River, two days' travel west of Likiang."

56489. *CASTANOPSIS* sp. Fagaceæ.

"(No. 6739. November 29, 1922.) A fine tree 60 to 80 feet tall, with a straight trunk 2 to 3 feet in diameter, found in an oak and pine forest in the Shwell Valley, between Chiang-tso and Linchiapu, on the Shwell-Salwin watershed, two days' travel north of Teng-yueh at an altitude of about 7,000 feet. In this region at this time of the year there is frost every night.

"The slightly crenate leaves are oblong, silvery glaucous beneath and dark green above, and the small burs, with short thick spines, are in axillary spikes 4 or 5 inches long. The small nuts are at first brown, later becoming black, and they are sweet in taste."

56490. *CORYLUS* sp. Betulaceæ. Filbert.

"(No. 6756. October, 1922.) A tree 50 feet high, with trunks 2 or 3 feet or more in diameter, found wild among limestone boulders and humus on the Likiang Snow Range at an altitude of 10,000 feet. The nuts are large and edible."

56491. *PYRUS* sp. Malaceæ. Pear.

"(November, 1922.) A fine tree with a dense round crown from the mountains near Puerhu. The white flowers are borne in great profusion and the fruits remain for a long time on the tree, becoming black and sweet. This is the species used in southern Yunnan as a stock for the cultivated pears. Obtained through Miss Clara Peterson, of the Puerhu Mission."

56492. *QUERCUS* sp. Fagaceæ. Oak.

"(No. 6818. October, 1922.) A tall tree 50 to 60 feet in height, from the western slopes of the Likiang Snow Range, on the road to the Yangtze River at an altitude of 11,000 feet. The leaves are lanceolate and entire and the acorns oblong."

56493. *ZIZIPHUS* sp. Rhamnaceæ.

"(No. 6824. October, 1922.) A handsome spreading tree 30 feet high, with a round crown, found above Yangpi two days' travel from Talifu, at an altitude of 7,500 feet. The leaves are large, oval, and finely serrate, and the tree was loaded with olive-shaped drupes."

56494. (Undetermined.)

"(No. 6740. November 28, 1922.) *He ko* (black fruit tree). A tree 25 to 30 feet high with tall, spreading, drooping branches, which grows commonly on the trail to Chuchi, one day's journey northeast of Tengyueh. The tree was loaded with fleshy, bluish black 3-lobed capsular fruits; the one fertile lobe contained an oily, bitter seed. The fruits are gathered by the natives, dried, pressed, and heated, and an oil extracted which is used for lighting purposes."

56495 to 56498.

From Burringbar, New South Wales. Seeds presented by B. Harrison. Received February 7, 1923. Quoted notes by Mr. Harrison.

56495 to 56498—Continued.

56495. *ACACIA* sp. Mimosaceæ.

"The 'creeping wattle' is 4 or 5 feet high, growing in sandy soil near the sea. As the branches take root on the surface of the ground, this may prove of value as a sand binder."

56496. *AMARANTHUS* sp. Amaranthaceæ.

"A new 'Chinese spinach.'"

56497. *TIBOUCHINA* sp. Melastomaceæ.

"A splendid native pink-flowered shrub which grows to a height of 5 or 6 feet."

56498. *VIGNA CYLINDRICA* (Stickm.) Skeels. Fabaceæ. Catjang.

"Edible white *Bechuana* cowpea." This produces heavy crops on long runners."

56499 and 56500. *PERESKIA BLEO* (H. B. K.) DC. Cactaceæ. Cactus.

From Gatun, Canal Zone. Presented by J. A. Close. Received February 5, 1923.

"This cactus, which is also known under the name of *Pereskia panamensis*, is not uncommon in Panama and is also found in Colombia. In the city of Panama it is sometimes cultivated in the yards. It has large yellow flowers and peculiar truncated fruits. As a greenhouse plant it does well but rarely flowers." (J. N. Rose.)

56499. Cuttings.

56500. Fruits.

56501 to 56521.

From Simferopol, Crimea. Seeds presented by George Nikolaevich Visozki, professor of agronomy, Crimean Agricultural Institute, through Herbert Hoover, chairman, American Relief Administration. Received January 25, 1923. Quoted notes by Professor Visozki.

"These seeds were collected in 1922, mostly in the Koyash and Bodrac estates of the Crimean Agricultural Institute, in the southern part of the Crimea along the Boulganac Valley, 17 or 18 versts (about 12 miles) west of Simferopol. Some were collected on the virgin steppes of the Askania-Nova estate."

A collection of wild and cultivated grasses from the Crimea. Many are widely known species, but they are introduced for cultural and comparison tests with American-grown forms.

56501 and 56502. *AGROPYRON* spp. Poaceæ. Grass.56501. *AGROPYRON CRISTATUM* (L.) Gaertn.

"(Nos. 1 to 3.) A very good grass for dry regions. Native name *jitniak*."

For previous introduction, see S. P. I. No. 28306.

56502. *AGROPYRON INTERMEDIUM* (Host) Beauv.

"(No. 4.) Very good for dry soils, especially on slopes."

For previous introduction, see S. P. I. No. 30016.

56503. *AVENA STERILIS* L. Poaceæ. Wild oats.

"(No. 36.) Found as a weed among cultivated plants on the steppes of southern Crimea."

For previous introduction, see S. P. I. Nos. 25361-25363.

56504. *BECKMANNIA ERUCAEFORMIS* (L.) Host. Poaceæ. Grass.

"(No. 21. *Askania Nova*.) A very good fodder plant for growing on moist soil."

For previous introduction, see S. P. I. No. 20214.

56501 to 56521—Continued.

56505. *BROMUS VARIEGATUS* Bieb. Poaceæ. Grass.

"(No. 14.) A grass found commonly in the Crimea in wild places and also in cultivated land."

56506 and 56507. *FESTUCA* spp. Poaceæ. Grass.56506. *FESTUCA ELATIOR* L.

"(No. 25. Koyash and Bodrac estates.) A grass which grows in low-lying places."

For previous introduction, see S. P. I. No. 32216.

56507. *FESTUCA OVINA* L.

"(Nos. 23 and 24. Koyash and Bodrac estates.) A grass growing wild on the steppes and in unplowed ground."

For previous introduction, see S. P. I. No. 20738.

56508 and 56509. *HORDEUM* spp. Poaceæ. Grass.56508. *HORDEUM MARITIMUM* Roth.

"(No. 34. Koyash estate.) Grows in salty soil in meadows."

For previous introduction, see S. P. I. No. 49807.

56509. *HORDEUM NODOSUM* L.

"(No. 35.) A grass growing in salty places."

56510. *KOELERIA GRACILIS* Pers. Poaceæ. Grass.

"(No. 22.) Growing on the steppes."

56511. *LOLIUM MARSCHALLII* Stev. Poaceæ. Grass.

"(No. 29. Koyash estate.) Common on sloping meadows."

56512. *MELICA CILIATA* L. Poaceæ. Grass.

"(No. 26.) Grows along slopes in unplowed ground and in low-lying places."

For previous introduction, see S. P. I. No. 53149.

56513. *PANICULARIA FLUITANS* (L.) Kuntze. Poaceæ. Grass.

"(No. 30.) An aquatic grass."

56514. *POA PRATENSIS* L. Poaceæ. Kentucky bluegrass.

"(No. 28.) A rather common meadow grass."

56515 to 56517. *STIPA* spp. Poaceæ. Grass.56515. *STIPA CAPILLATA* L.

"(No. 11. *Askania Nova*.) The most popular pasture grass here."

For previous introduction, see S. P. I. No. 20686.

56516. *STIPA PENNATA* LESSINGIANA (Trin. and Rupr.) Richter.

"(No. 13.) A type with downy sheaths; grows on dry soil."

56517. *STIPA PENNATA* L. Feathergrass.

"(No. 12.) A feathery grass from the foothill steppes."

56518 to 56521. *TRITICUM* spp. Poaceæ.56518. *TRITICUM CYLINDRICUM* (Host) Ces. Pas. and Gib.

"(No. 10.) A grass from the plains."

For previous introduction, see S. P. I. No. 20689.

56501 to 56521—Continued.

56519. *TRITICUM MONOCOCCUM* L.
Wild wheat.

"(No. 7.) A wild wheat supposed to be the parent of our present types. The native Tatar name is *orkish*."

56520. *TRITICUM OVATUM* (L.) Rasp.

"(No. 8.) A grass from the plains."

For previous introduction, see S. P. I. No. 30112.

56521. *TRITICUM TRIUNCIALE* (L.) Gren. and Godr.

"(No. 9.) A grass from the plains."

56522. \times *MALUS MAGDEBURGENSIS*
Zimmerm. Malaceæ. Apple.

From Glashevin, Ireland. Plant presented by J. W. Besant, acting keeper, Royal Botanic Gardens. Received January 26, 1923.

This is in all probability a hybrid between *Malus spectabilis* and *M. dasyphylla*, discovered among some old trees by the municipal gardener, Mr. Schoch, in Magdeburg, Germany. The old parent trees were probably introduced from Japan early in the past century, and some years ago Mr. Schoch moved the hybrids out into the open, where they are now fine growing trees. (Adapted from *Möller's Deutsche Gärtner-Zeitung*, vol. 20, p. 254.)

56523 to 56527. *LESPEDEZA* spp. Fabaceæ.

From Kagoshima, Japan. Seeds presented by Dr. Takeo Kusano, Kagoshima Imperial College of Agriculture and Forestry. Received February 3, 1923.

A collection of native Japanese bush clovers introduced for department forage-crop specialists.

56523. *LESPEDEZA BICOLOR INTERMEDIA* Maxim.

Yama-hagi.

56524. *LESPEDEZA BICOLOR SIEBOLDI* (Miquel) Maxim.

Miyagino-hagi.

56525. *LESPEDEZA JUNCEA* Pers.

Variety *latifolia*. *Hai-medo-hagi*.

56526. *LESPEDEZA JUNCEA SERICEA* (Miquel) Forbes and Hemsl.

Medo-hagi.

56527. *LESPEDEZA PILOSA* (Thunb.) Sieb. and Zucc.

Neko-hagi.

56528 to 56535.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received February 1, 1923.

56528. *ALANGIUM CHINENSE* (Lour.) Rehder. Cornaceæ. (*Marlea begoniaefolia* Roxb.)

"A tree, hardy here, but loses its leaves in winter, which might not happen in a warmer climate." (*Proschowsky*.)

A tall tree, up to 60 feet in height, with oval leaves about 8 inches in length and clusters of small whitish fragrant flowers. It is a native of Africa and southeastern Asia. This tree might be grown in the extreme southern United States.

For previous introduction, see S. P. I. No. 44859.

56529. *ARBUTUS CANARIENSIS* Duham. Ericaceæ.

56528 to 56535—Continued.

"A beautiful evergreen tree attaining a height of 40 feet. It is, as the name indicates, a native of the Canary Islands. It has pretty rose-colored flowers in racemes, followed by orange-colored fruits about an inch in diameter, which are very beautiful as seen against the shining-green foliage. The fruits are sweeter and more pulpy than those of the strawberry tree and are considered very good by the natives in spite of their rather numerous seeds. The bark is smooth and very thin, the wood rose colored and useful in cabinetmaking. This species should be used by plant breeders in hybridizing with the strawberry tree, *Arbutus unedo*." (*W. T. Swingle*.)

For previous introduction, see S. P. I. No. 36529.

56530. *BENTINCKIA NICOBARICA* (Kurz) Bccarl. Phœnicaceæ. Palm.

An elegant little palm with a habit resembling that of a *Kentia*; its native home is the Nicobar Islands, Indian Ocean. The pinnate, irregularly divided fronds are large and spreading, and the branched spadix bears small purplish berries.

For previous introduction, see S. P. I. No. 51707.

56531. *CORDIA ROTHII* Roem. and Schult. Boraginaceæ.

A small tree found in dry situations in northwestern and southern India; the fruit is eaten both raw and pickled by the poorer classes, and rope is made from the inner bark. The tough, hard gray wood is used for building purposes.

56532. *DENDROCALAMUS STRICTUS* (Roxb.) Nees. Poaceæ. Bamboo.

"A strikingly beautiful plant." (*Proschowsky*.)

A very tall bamboo, up to 100 feet in height, which is native to India and parts of Burma. It grows in drier situations than most bamboos and endures great cold as well as dry heat. It is useful for the consolidation of embankments on account of the network of fibrous roots, and its strength and solidity render it fit for many technical purposes. (Adapted from *Mueller, Select Extra-Tropical Plants*, p. 165.)

For previous introduction, see S. P. I. No. 53610.

56533. *FICUS CAPENSIS* Thunb. Moraceæ.

A lofty tree 50 feet or more in height, which grows commonly in the forests of the southeastern parts of South Africa. It flowers twice a year, the flowers appearing in large bunches on the trunk or even on its main roots near the trunk. The fruits become as large as the smaller varieties of cultivated figs; the pulp is sweetish but rather dry. (Adapted from *Marloth, Flora of South Africa*, vol. 1, p. 136.)

56534. *SOLANUM CYANANTHUM* Dunal. Solanaceæ.

A spiny shrub from the desert regions in the vicinity of the Rio Sao Francisco, Brazil. The leaves are long stemmed, very large, heart shaped, white tomentose beneath, and about 9 inches wide. The large sky-blue flowers, about 2 inches across, are in few-flowered racemes.

56535. *TECOMA GARROCHA* Hieron. Bignoniaceæ.

"A small glabrous shrub, native to Argentina. It is strikingly handsome with its slender racemes of bright-yellow and scarlet flowers and is smaller and more graceful than *Tecoma stans*." (*Alfred Rehder*.)

56536. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Paris, France. Seeds purchased from Messrs. Rouget & Van der Walle. Received March 16, 1923.

Locally grown seed from central France, introduced for specialists in the department engaged in clover breeding.

56537 to 56549.

From Shantung, China. Scions sent in by K. M. Gordon, South Shantung Industrial and Agricultural School of the American Presbyterian Mission (North), at the request of C. A. Reed, Bureau of Plant Industry. Received February 12, 1923.

56537 to 56541. *CASTANEA MOLLISSIMA* Blume. **Chestnut.**
Fagaceæ.

56537. No. 1. 56540. No. 4.

56538. No. 2. 56541. No. 5.

56539. No. 3.

56542. *DIOSPYROS KAKI* L. f. **Diospyraceæ. Kaki.**

"This persimmon is extensively used for drying." (Gordon.)

56543 to 56549. *JUGLANS REGIA* L. **Juglandaceæ. Walnut.**

56543. No. 1. 56547. No. 5.

56544. No. 2. 56548. No. 6.

56545. No. 3. 56549. No. 7.

56546. No. 4.

56550. SPERGULA ARVENSIS L. Silenaceæ. Spurry.

From Paris, France. Seeds purchased from Messrs. Vilmorin-Andrieux & Co. Received February 15, 1923.

Seeds of common spurry, introduced for department forage-crop specialists.

For previous introduction, see S. P. I. No. 1494.

56551. TRIFOLIUM FRAGIFERUM L. Fabaceæ. Strawberry clover.

From Melbourne, Victoria. Seeds purchased from F. H. Brunning. Received February 15, 1923.

"Strawberry clover is a perennial suitable as a pasture plant for wet, marshy ground. It has spreading stems, pink flowers, and foliage very similar to that of White Dutch clover. The name is derived from the fact that the seed heads resemble the strawberry in appearance." (Bunning.)

56552 to 56557. ORYZA SATIVA L. Poaceæ. Rice.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received February 19, 1923. Quoted notes by Mr. Hernandez.

"The following are white, nonglutinous varieties and have been tested under lowland conditions. They were grown at the Rosales Rice Station, Rosales, Pangasinan."

56552. "(No. 1.) *Apostol*. A nonbearded variety tested two years under lowland conditions; matures usually in 144 days. Average yield per hectare, 2,283 kilograms (approximately 2,000 pounds per acre)."

56553. "(No. 6.) *Cavetania I*. A bearded variety tested three years under lowland conditions; matures usually in 154 days. Average yield per hectare, 2,014 kilograms (approximately 1,800 pounds per acre)."

56552 to 56557—Continued.

56554. "(No. 5.) *Cayading a Nalabaga*. A bearded variety tested four years under lowland conditions; matures usually in 187 days. Average yield per hectare, 2,502 kilograms (approximately 2,200 pounds per acre)."

56555. "(No. 4.) *Macanining*. A bearded variety tested three years under lowland conditions; matures usually in 169 days. Average yield per hectare, 2,349 kilograms (approximately 2,100 pounds per acre)."

56556. "(No. 3.) *Mimis a Nalabaga*. A nonbearded variety; matures usually in 184 days. The value of this variety has not yet been fully determined."

56557. "(No. 2.) *Mimis a Purao*. A nonbearded variety tested four years under lowland conditions; matures usually in 188 days. Average yield per hectare, 3,245 kilograms (approximately 2,900 pounds per acre)."

56558. PISTACIA VERA L. Anacardiaceæ. Pistache.

From Palermo, Italy. Plants presented by Antonio D'Alia, Casa Agricola, Piana dei Greci. Received February 23, 1923.

A locally grown variety introduced for department specialists engaged in pistache investigations.

56559 to 56570.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received February 16, 1923.

56559 to 56561. *ACACIA* spp. **Mimosaceæ.**

56559. *ACACIA ELATA* A. Cunn.

A handsome unarmed tree 60 feet or more in height, with the young shoots often tinged with a golden yellow pubescence. The globular yellow flower heads are in clusters often 6 inches long. The tree is native to New South Wales. (Adapted from *Bentham, Flora Australiensis*, vol. 2, p. 413.)

56560. *ACACIA LINIFOLIA PROMINENS* (A. Cunn.) Moore.

An unarmed shrub 12 to 18 feet high, with angular branchlets and very narrow phyllodia (leaflike stems). The very small globular yellow flower heads are borne in racemes about as long as the phyllodia. Native to New South Wales.

56561. *ACACIA SALIGNA* (Labill.) Wendl.

The "weeping wattle," an ornamental acacia found in West Australia, is a tall shrub or small tree, 10 to 30 feet in height, with long thick phyllodia (leaflike stems) and short clusters of rather large globular flower heads. This is said to be the principal source of tan bark in southwestern Australia.

56562. *BILLARDIERA LONGIFLORA* Labill. **Pittosporaceæ.**

A twining shrub sometimes many feet in length, with leaves varying in shape from oval to linear and solitary flowers which are greenish yellow, often changing to purple. It is found in thickets and along water-courses in New South Wales, Victoria, and Tasmania. (Adapted from *Bentham, Flora Australiensis*, vol. 1, p. 123.)

56563. *CANDOLLEA GRAMINIFOLIA* (Swartz) F. Muell. **Candolleaceæ.**
(*Stylidium graminifolium* Swartz.)

An ornamental Australian plant with stiff grasslike leaves, sometimes 9 inches long, and

56559 to 56570—Continued.

always growing in a tuft from the end of a very short stem, and scapes 6 to 18 inches long bearing a simple raceme of pink flowers.

For previous introduction, see S. P. I. No. 44324.

56564. *CASUARINA SUBEROSA* Otto and Dietr. Casuarinaceæ.

A tree 30 to 40 feet tall, quite similar to *C. equisetifolia*, with smooth, slender branchlets. It is considered a valuable fodder tree in the interior districts which are subject to drought. The wood is of great beauty for cabinetwork, but should be used only in veneers, as it is apt to split in drying.

56565. *CERVICINA GRACILIS* (Forst.) J. Britten. Campanulaceæ.
(*Wahlenbergia gracilis* DC.)

A very variable species, either a slender annual 6 to 18 inches high or a perennial with a rootstock which is almost woody. The leaves vary in shape from oval to linear, and the blue flowers, up to an inch across, are borne singly on long stems. The plant is native to many parts of Australia, extending to New Zealand and perhaps to the East Indies.

56566. *DANTHONIA SEMIANNULARIS* (Labill.) R. Br. Poaceæ.

Spreading through the pastures, this native grass, known as *wallaby grass*, is becoming very popular, and rightly so. It is a perennial tufted grass, producing a fair amount of soft succulent fodder suitable for either sheep or cattle. The leaves are narrow, usually hairy, and light green. The flower stems grow to a height of about 2 feet, and the seed, which sheds easily, is produced in clusters that have a white woolly appearance when ripe. *Wallaby grass* provides good pasturage during the spring and summer and remains green in the winter months. (Adapted from *The Agricultural Gazette of New South Wales*, vol. 28, p. 286.)

For previous introduction, see S. P. I. No. 49018.

56567. *EUCALYPTUS REGNANS* F. Muell. Myrtaceæ.

A large tree, the largest, in fact, in Australia; trees 300 feet tall are known in Victoria, and Mueller states that frequently a height of 400 feet is reached. The trunks are whitish and very straight, and the narrow leaves, shining on both sides, are of rather thin texture. The wood is well adapted for shingles, planking, and general construction. (Adapted from Maiden, *A Critical Revision of the Genus Eucalyptus*, vol. 1, p. 183.)

56568. *EXOCARPUS CUPRESSIFORMIS* Labill. Santalaceæ.

Usually a tree about 20 feet in height, with very numerous green rigid wiry, apparently leafless branches; the leaves are reduced to minute scales. The flowers are very small, appearing in short spikes; usually only one of these flowers is fertilized, and the small roundish nut is borne on a red succulent stem which is eaten by the natives. The close-grained handsome wood is used for cabinetwork and for tool handles. Native throughout Australia.

56569 and 56570. *STIPA* spp. Poaceæ.

56569. *STIPA PUBESCENS* R. Br.

A tufted perennial grass much relished by stock, found only in the wooded portions of Australia, where it seeds in October. The seed heads differ from those of other species of *Stipa* in being a rich brown.

56559 to 56570—Continued.

56570. *STIPA SEMIBARBATA* R. Br.

A perennial grass with stems 2 to 3 feet high, which is abundant in dry soil throughout Tasmania and also in many parts of Australia. The leaves are narrow, often almost subulate, and the panicles, 6 to 10 inches in length, are very dense.

56571 to 56576.

From Georges Bay, Tasmania. Seeds presented by Dr. Arthur H. Clarke. Received February 16, 1923. Quoted notes by Doctor Clarke, unless otherwise specified.

56571 to 56573. *ACACIA* spp. Mimosaceæ.

56571. *ACACIA DISCOLOR* Willd.

"An autumn flowering acacia 5 to 7 feet high."

A tall unarmed shrub or sometimes a small tree, with bipinnate leaves, pale beneath, and yellow flower heads in axillary and terminal clusters. It is native to southeastern Australia and Tasmania.

56572. *ACACIA LONGIFOLIA* SOPHORÆ (Labill.) F. Muell.

"A yellow-flowered shrub 15 to 20 feet high."

A rapid-growing acacia which frequents the seacoast of southeastern Australia from southern Queensland to South Australia, and also in Tasmania. It often becomes a small tree and is excellent for preventing the encroachments of the sea along sandy coasts. The wood is white, hard, and durable.

56573. *ACACIA MYRTIFOLIA* Willd.

"A yellow-flowered shrub 2 to 3 feet high."

A glabrous shrub with very angular branches and phyllodia (leaflike stems) which vary in shape from oval to linear, the linear forms being much longer than the others. The flower heads, almost sessile, contain only a few large flowers. The shrub is native to dry and rocky places in many parts of Australia.

56574. *EUCALYPTUS VIRGATA* Sieber. Myrtaceæ.

"*Tasmanian ironbark*. A tree 150 feet tall, with very tough hard wood, excellent for making piles."

For previous introduction, see S. P. I. No. 38727.

56575. *INDIGOFERA AUSTRALIS* Willd. Fabaceæ. Indigo.

An erect branching shrub 2 to 4 feet high with attractive compound leaves and dense or loose clusters of showy red flowers. It is very variable in regard to habit and foliage, and in its various forms is found almost throughout Australia, except in the Northern Territory.

For previous introduction, see S. P. I. No. 47152.

56576. *KENNEDIA PROSTRATA* R. Br. Fabaceæ.

"Creeping, about 2 feet long, with pink to scarlet flowers."

A prostrate or sometimes twining hairy perennial, with leaves composed of three roundish leaflets less than an inch long and scarlet flowers, usually solitary, nearly three-fourths of an inch long. Native to most parts of Australia.

56577 to 56590.

From the city of Guatemala, Guatemala. Seeds presented by Sr. Jorge García Salas, Dirección General de Agricultura. Received February 19, 1923. Quoted notes by Señor Salas.

56577. *MEIBOMIA* sp. Fabaceæ.

"(No. 3.) *Lentaje crimmarrona*. From Amatitlan."

56578 to 56588. *PHASEOLUS* spp. Fabaceæ.

56578 to 56581. *PHASEOLUS LUNATUS* L.
Lima bean.

56578. "Mexican pole Lima; flat red snap beans."

56579. "Cuban pole Lima; flat white snap beans."

56580. "*Frijol pintado*; a pole Lima with speckled, flat snap beans."

56581. "(No. 4.) *Piligue*; from borders of cultivated fields near the city of Guatemala."

56582 to 56585. *PHASEOLUS VULGARIS* L.
Common bean.

56582. "Originally from Mexico; a bush variety with light snap beans."

56583. "*Frijol de Mantua*, originally from Valencia, Spain. A bush form with red snap beans; can be used also as a green string bean."

56584. "*Alubia*, originally from Zamora, Spain. A bush form with white, longish rounded beans; can be used also as a string bean."

56585. "*Bahama* bean; a pole variety with white rounded snap beans."

56586. *PHASEOLUS* sp.

"*Chlorototo*; collected in the vicinity of Lake Amatitlan, Guatemala."

56587. *PHASEOLUS* sp.

"*Frijolillo*, Lake Amatitlan, Guatemala."

56588. *PHASEOLUS* sp.

"*Choreque*. San Andres Semetabaj, Solola, Guatemala."

56589 and 56590. *VIGNA SINENSIS* (Torner) Savi. Fabaceæ. Cowpea.

56589. "*Frijol garbanzo*. A long-podded bush variety."

56590. "*Frijol de cosita*. A bush variety with long pods and black-eyed beans."

56591 to 56593.

From Bogota, Colombia. Seeds presented by Brother Ariste Joseph, Instituto de la Salle. Received February 19, 1923.

56591. *SOLANUM* sp.

"Cultivated in Bogota as an ornamental; the fruit is poisonous." (Ariste.)

56592 and 56593. *TACSONIA* spp. Passifloraceæ.

56592. *TACSONIA LANATA* Juss.

An evergreen climbing plant, native to Colombia. All parts of the plant are covered with a downy wool, and the narrowly heart-shaped leaves resemble those of the mullein. The long slender salmon-pink flowers are borne singly on short stems, and the fruit is said to be edible.

56591 to 56593—Continued.

56593. *TACSONIA MOLLISSIMA* H. B. K.
Curuba.

"This species is more commonly cultivated on the mesa of Bogota than any of the several others whose fruits are also known as curuba. The vine is not quite so ornamental as that of some other species, but the fruit is considered one of the best. It is slender, oblong-oval, 2 to 4 inches long, and slightly more than an inch thick, with a thin leathery pericarp (not brittle as in most other species) inclosing many black seeds, each surrounded by an orange-colored juicy aril. The flavor is sprightly and aromatic. While much eaten out of hand, the fruit is perhaps best when prepared in the form of *creme de curuba* or when made into an ice. Certainly the curuba is one of the most popular fruits in Bogota." (Wilson Popenoe.)

For previous introduction, see S. P. I. No. 51399.

56594 and 56595.

From Santiago de las Vegas, Cuba. Seeds presented by Dr. Mario Calvino, Agricultural Experiment Station. Received January 30, 1923. Quoted notes by Doctor Calvino.

56594. *PHASEOLUS LUNATUS* L. Fabaceæ.
Lima bean.

"*Frijol caballero perenne*. A climbing white variety perennial in Cuba; these seeds come from Oriente."

56595. *VIGNA CYLINDRICA* (Stickm.) Skeels. Fabaceæ. Catjang.

"*Frijol precioso*. From eastern Cuba."

Introduced in connection with disease-resistance experiments.

56596 to 56603.

From Tengyueh, Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the United States Department of Agriculture. Received February 16, 1923. Quoted notes by Mr. Rock.

56596. *ALLIUM* sp. Liliaceæ. Onion.

"*Tsung*. A variety resembling our small spring onion; it does not form a bulb."

56597 to 56599. *BRASSICA* spp. Brassicaceæ.

56597. *BRASSICA* sp.

"(No. 7814.) *Hsiao petsai* (small white cabbage). A stout lettuce-shaped cabbage with compact leaves, dark green above with a snow-white base, up to 4 inches broad, extending up into the dark-green leaf blades and forming prominent white ribs. The roots are short and stout."

56598. *BRASSICA* sp.

"(No. 7815.) *Ta petsai*. A large oblong cabbage, resembling the following [No. 7813; S. P. I. No. 56599]. The very large oblong leaves are pale green, and the broad base and midribs are snow white. This is a succulent vegetable, cooked like cabbage."

56599. *BRASSICA* sp.

"(No. 7813.) *Tsin tsai* (green cabbage). A green cabbage with leaves 2 feet or more in length and a foot broad, green throughout, including the thick sessile base. The root is turnip shaped but divided. This variety is cooked like cabbage."

56600. *CORIANDRUM SATIVUM* L. Apiaceæ.
Coriander.

"(No. 7818.) *Yen sui*. This plant has an obnoxious odor, but is used in the same manner as European parsley."

56596 to 56603—Continued.

56601. *LACTUCA SATIVA* L. Cichoriaceae.
Lettuce.

"(No. 7817.) *Oh soon*. A peculiar vegetable of which the thick inner stalk is eaten; this stalk is about 2½ feet long and 2 inches in diameter, and it is cut into slices and boiled. The leaves are discarded, as they are bitter."

56602. *RAPHANUS SATIVUS* L. Brassicaceae.
Radish.

"(No. 7816.) *Water radish*. A large snow-white oblong radish 3 feet long and 5 inches thick, cooked like kohlrabi."

56603. *SPINACIA OLERACEA* L. Chenopodiaceae.
Spinach.

"(No. 7812.) *Po tsai*. The dull-green leaves are lyrate sinuate, with sharp-pointed tips and lobes and long-ribbed fleshy stems. The roots are turnip shaped. The leaves are cooked like spinach. The seeds are sown in seed beds and set out in October or a little earlier and are brought to the market in December."

56604. *STACHYS SIEBOLDI* Miquel.
Menthaceae.

From Tengyueh, Yunnan, China. Tubers collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received February 16, 1923.

"*Yee huai*. Small tubers spirally twisted like snails, about 2 inches long, tapering at both ends. When boiled for a half hour or an hour, seasoned, and placed in butter and milk, these are delicious."

56605. *ZEA MAYS* L. Poaceae. Corn.

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, General Experiment Station. Received February 14, 1923.

"*White St. Croix mais* (white St. Croix corn). In 1918 this corn was imported from St. Croix, Virgin Islands, and it is one of the two imported varieties which have done well in Java. St. Croix is a dent corn, growing to 6 or 8 feet, with a very strong coarse stem. Each plant produces normally one large ear and no rubbins. The variety is medium maturing (about 100 days in Java) and yields about the same as *Gele Menado mais* [S. P. I. No. 56663]. The grain is not as popular as that of flint-corn varieties, as it can not be pounded like these. For the feeding of cattle I think it to be of the same value as *Madoera mais* [S. P. I. No. 56662] and *Gele Menado mais*." (L. Koch.)

56606 and 56607. *MALUS SYLVESTRIS* Mill. Malaceae. (*Pyrus malus* L.) Apple.

From Orleans, Loiret, France. Plants presented by Edmond Versin, St. Jean le Blanc. Received February 26, 1923. Quoted notes by Mr. Versin.

56606. "*Court pendu*. The tree is prolific, but not very vigorous. The fruits are greenish gray, becoming yellow at maturity, and marked with red. They are of good quality and will keep from November to March."

56607. "*Reinette de Canada gris*. The tree is vigorous and very prolific, and the flowering season medium. The fruits are large, of a tarnished green which becomes a gray russet, and of very good quality. They will keep from December to March."

56608. *ACTINIDIA CHINENSIS* Planch.
Dilleniaceae. Yang-tao.

From Chengtu, Szechwan, China. Seeds presented by George B. Newman, West China Union University, at the request of B. F. Lawrence, West China Mission, Suining, Szechwan. Received February 23, 1923.

"These 'hairy pears' came from the high foothills, at altitudes of 4,000 to 8,000 feet, near Chengtu, Szechwan." (Lawrence.)

"The *yang-tao*, an ornamental deciduous climber native to Szechwan, has attracted considerable attention because of the high quality of its fruits. The leaves have a plushlike texture and an unusual dark-green color, and their large size and regular spacing add to the beauty of the vine. The flowers are buff yellow to white, fragrant, often 1½ inches across, and are produced in great abundance. The ovoid to globose, russet-brown villous fruits are about 2 inches long. The flesh is green, of most excellent flavor, resembling that of a gooseberry but tempered with a flavor peculiarly its own. The fruit is good when eaten fresh and also makes very fine jam and sauce." (David Fairchild.)

For previous introduction, see S. P. I. No. 55840.

56609 and 56610. *HORDEUM* spp.
Poaceae. Barley.

From Ayr, Scotland. Seeds presented by McGill & Smith. Received February 24, 1923. Quoted notes by McGill & Smith.

56609. *HORDEUM DISTICHON PALMELLA* Harlan.

"Recent trials of our new barley Golden Pheasant show that it is a better yielder than Plumage Archer, and we think it should be well adapted for the United States, as it is hardy and tillers well. It is a cross between Goldthorpe, one of the best British brewers' varieties, with Pilsen, the best brewers' variety in Germany. It is a big yielder."

56610. *HORDEUM INTERMEDIUM HAXTONI* Koern.

"Our 6-rowed barley is still in the experimental stage. It will probably never be anything but a feeding barley because of the amount of small seeds. The center rows are small twisted seeds, while the two side rows are equal to any other variety; the small seeds could be used for sowing. This variety was produced by crossing two 2-rowed barleys."

56611 to 56614.

From Nioka, Ituri, Belgian Congo. Seeds presented by Jean Claessens, Ferme Experimentale du Haute Ituri. Received February 26, 1923. Quoted notes by Mr. Claessens.

56611. *AMARANTHUS CAUDATUS* L. Amaranthaceae.

"*Lenga-lenga*, an interesting plant from which the natives prepare a flour which is made into dough and cooked. The plants become 70 or 80 centimeters high, with a rather open habit, and the fruiting panicles are red, yellowish, or yellowish with reddish striae."

56612 and 56613. *HOLCUS SORGHUM* L. Poaceae. (*Sorghum vulgare* Pers.) Sorghum.

56612. "(October, 1922.) A variety grown by the Bolos, but not by the Walendi."

56613. "(October, 1922.) A variety grown by the Walendi, probably a mixture."

56614. *NICOTIANA RUSTICA* L. Solanaceae. Tobacco.

"(October, 1922.) A yellow-flowered tobacco grown by the natives of Haute Ituri and eastern Uele. This tobacco is very strong and aromatic and very popular with the natives. The plant becomes 60 or 70 centimeters in height."

56615. PHLEUM PRATENSE L. Poaceæ. Timothy.

From Paris, France. Seeds purchased from Messrs. Vilmorin-Andrieux & Co. Received February 26, 1923.

"This has been grown near Epinal, Vosges, France, for four or five generations." (*Vilmorin-Andrieux & Co.*)

Introduced for timothy-breeding investigations.

56616. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Padua, Italy. Seeds purchased from Nicola Gribaldo, Padua, through Asher Hobson, American representative, International Institute of Agriculture, Rome. Received February 26, 1923.

Locally grown seed from the Province of Padua, Italy, introduced for cultural and comparison tests.

56617 to 56628. SACCHARUM OFFICINARUM L. Poaceæ. Sugarcane.

From Soledad, Cienfuegos, Cuba. Seeds presented by R. M. Grey, superintendent, Cuban Gardens. Received February 13, 1923.

"Seeds selected from our best varieties. The plants from which the seeds were taken are highly resistant to mosaic disease." (*Grey.*)

56617. A. H. 175.	56623. A. H. 9172.
56618. A. H. 247.	56624. A. H. 11,152.
56619. A. H. 4124.	56625. A. H. 12,096.
56620. A. H. 6301.	56626. A. H. 12,100.
56621. A. H. 6304.	56627. A. H. 13,024.
56622. A. H. 6307.	56628. A. H. 13,168.

56629 and 56630.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received February 26, 1923.

56629. GLADIOLUS SEGETUM Ker. Iridaceæ.

"One of the most beautiful wild flowers around here. It might be very valuable for hybridizing." (*Proschowsky.*)

A European gladiolus of free habit, fond of warm, dry soil and a sunny situation, with rather small rose-purple flowers. It is an admirable species for mixed borders. (Adapted from *Robinson, English Flower Garden*, p. 577.)

For previous introduction, see S. P. I. No. 51146.

56630. TRIFOLIUM ALEXANDRINUM L. Fabaceæ. Berseem.

Introduced for department specialists engaged in clover-breeding investigations.

56 31 FICUS CARICA L. Moraceæ. Fig.

From Saonara, Padova, Italy. Cuttings purchased from Fratelli Sgaravatti. Received March 31, 1923.

Dottato. The best-known in Tuscany, Italy, and the variety which constitutes the largest part of the dried figs exported from Italy. The tree loves rich, moist soils and is not suitable for dry lands; it is a strong grower and heavy bearer. The medium-sized fruits, about 3 inches long, are obovoid, with smooth, thin, yellowish green amber skin. (Adapted from *Gustav Eisen, The Fig*, p. 229.)

This well-known Italian variety is introduced for cultural and comparison tests by department specialists engaged in fig-breeding experiments.

56632. SACCHARUM OFFICINARUM L. Poaceæ. Sugarcane.

From Coimbatore, India. Seeds presented by T. S. Venkatraman, Government sugarcane expert, the Agricultural College. Received February 6, 1923.

"These seeds are from cane of a rather thin type, but which should prove resistant to mosaic disease." (*Venkatraman.*)

56633 and 56634.

From Upper Chindwin, northwestern Burma. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received February 28, 1923. Quoted notes by J. F. Rock.

56633. TARAKTOGENOS KURZII King. Flacourtiaceæ.

"(January 8, 1923.) Collected near the jungle village of Kyokta, Upper Chindwin. These seeds are from the same forest as those sent in 1921."

For previous introduction, see S. P. I. No. 52803.

56634. ZIZIPHUS sp. Rhamnaceæ.

"(January 6, 1923.) A tree 40 feet high, with a stout trunk 1½ feet in diameter, found in a very dry region on the Mytha River near Kalewa, Upper Chindwin. The very small round leaves are less than an inch wide and the small globose, yellowish red drupes, less than an inch in diameter, have large stones and very scanty flesh."

56635. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Budapest, Hungary. Seeds purchased from the Hungarian Seed Culture Co. Received March 1, 1923.

Introduced for department specialists engaged in clover-breeding investigations.

56636 and 56637.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received March 3, 1923. Quoted notes by Mr. Rock.

56636. ALNUS NEPALENSIS D. Don. Betulaceæ. Alder.

"(No. 6858. September 27, 1922.) A tree up to 70 feet in height, with a trunk 3 to 4 feet in diameter, which is very common all over Yunnan at altitudes of 4,000 to 7,000 feet. It is a rapid grower, used chiefly for firewood, and appears to thrive in spite of the tall grass, 5 to 8 feet high, which surrounds it. I would recommend it strongly for planting in grassland where trees can not usually be grown."

For previous introduction, see S. P. I. No. 55670.

56637. BUCKLANDIA POPULNEA R. Br. Hamamelidaceæ.

"(Nos. 7574, 7575. November 21, 1922.) A tall straight tree 60 to 80 feet in height, of fine appearance, found near Kaotien, one day's journey north of Tengyueh, at an altitude of 6,000 feet. The broadly triangular leaves are dark green, and the yellow male flowers are in globose heads. This should be an ornamental lawn tree."

For previous introduction, see S. P. I. No. 55674.

56638. BROMUS UNIOLOIDES (Willd.) H. B. K. Poaceæ. Grass.

From Auckland, New Zealand. Seeds presented by W. S. Hill, agricultural instructor, Seddon Memorial Technical College. Received March 1, 1923.

"*Giant bromegrass*. I made this selection at the Mounahaki Experimental Farm in 1913, and during the six generations through which it has passed it has exhibited the characters of a pure line. It has proved superior to the commercial prairie grass (*Bromus unioloides*) in yield and resistance to smut. The seed is heavier and retains its vitality well. The strain is likely to prove of great value as pasture in regions of mild winters and on the lighter soils. The bulk of the growing from early autumn sowing is made during the winter and early spring." (Hill.)

56639 to 56647. ZEA MAYS L. Poaceæ. Corn.

From Johannesburg, Transvaal. Seeds presented by P. J. Stevenson, trade commissioner. Received March 5, 1923. Quoted notes by Mr. Stevenson.

Nine varieties of corn sent in from South Africa for testing in this country.

56639. "*Ten-row Yellow Flint*. Grown by G. Mitchell-Innes, Blanerne, Elandslaagte, Natal."

56640. "*Hickory King*. Grown by Hubert v. d. Merve, Smithfield, Potchefstroom, Transvaal."

56641. "*Iowa Silver Mine*. Grown by C. Mottram, Bushybend, Machavie, Transvaal."

56642. "*Ladysmith*. Grown by J. Meiklejohn, Rosyth, Private Bag, Pienaars River, Transvaal."

56643. "*Natal 8-row Flint*. Grown by G. Mylrea, Reismierbult, Transvaal."

56644. "*Palins Cornflake*. Grown by P. Erasmus, Avondale, Potchefstroom, Transvaal."

56645. "*Potchefstroom Pearl*. Grown by George Parks, Machavie, Transvaal."

56646. "*Reid Yellow Dent*. Grown by E. Papendorp, Reismierbult Station, Transvaal."

56647. "*Salisbury*. Grown by W. Bean, Shamva, Rhodesia."

56648 to 56659. MANGIFERA INDICA L. Anacardiaceæ. Mango.

From Rio de Janeiro, Brazil. Plants presented by P. H. Rolfs, Vicosia, Minas Geraes, through Crittenden Marriott, Bureau of the Public Health Service, Treasury Department. Received January 27, 1923. Quoted notes by Mr. Rolfs, unless otherwise specified.

"As a general rule the mangos of Brazil are not of good quality when compared with those of India, the Philippines, and several other regions. Most of them are decidedly fibrous, and few have as rich a flavor as such Indian varieties as Amini, Mulgoba, and Paheri. Some of them are resistant to anthracnose, however, and for this reason are worthy of trial in Florida and the West Indies." (Wilson Pope-noe.)

56648. "No. 12. *Augusta*. A small mango, but one of the few varieties propagated in Brazil by inarching or grafting. As seen growing in the garden of Sr. Antonio Calmon do Pin e Almeida on Itaparica Island near Bahia, it may be described as follows: General form obliquely oval; cross section oval, size small, length $2\frac{3}{4}$ inches, breadth $2\frac{1}{2}$ inches, thickness 2 inches; stem inserted obliquely; base obliquely flattened, cavity practically none; dorsal shoulder rounded, low; ventral shoulder rounded, high; apex rounded, not five-sixteenths of an inch from longitudinal apex, a slight depression; sur-

56648 to 56659—Continued.

face smooth, green-yellow, tinged and overspread with orange on cheek; dots numerous, subcutaneous, small, rounded, lighter in color than surface; skin thick, firm, and tough, adhering closely; flesh pale orange, very juicy, aroma pleasant but not pronounced; flavor subacid; seed large for size of fruit, ovate-reniform, $2\frac{1}{4}$ by $2\frac{1}{4}$ by 1 inches, very fibrous over entire surface, monoembryonic; season December and January. For trial in the mango-growing regions of Florida." (Dorsett, Shamel, and Popenoe.)

For previous introduction, see S. P. I. No. 37848.

56649. "No. 11. *Carlota*. This has a better color than *Itamaraca* and is more resistant to anthracnose, but the most interesting thing about it is its tendency to produce sports."

For previous introduction, see S. P. I. No. 37847.

56650 and 56651. "The two following numbers are simply variants of what appear to be quite similar fruits; they are heavy croppers and precocious and are especially interesting because dwarf forms."

56650. No. 1. *Familia*.

56651. No. 2. *Familia*.

56652 to 56654. *Itamaraca* is probably the best variety of mango in the vicinity of Bahia, Brazil. It takes its name from the island of Itamaraca, off the Brazilian coast near Pernambuco, a place especially noted for its mangos. The fruit is small and of very unusual form, distinctly oblate, and commonly not more than 3 inches in diameter. The skin is yellow and the flesh rather free from fiber, with an aromatic, spicy flavor. (Adapted from Bulletin No. 445, U. S. Dept. of Agr., p. 24.)

56652. No. 3. *Itamaraca-A*.

56653. No. 4. *Itamaraca-B*.

56654. No. 5. *Itamaraca-B*.

56655. No. 6. *Itaparica*.

56656. No. 7. *Itaparica*.

56657. No. 8. *Julieta*.

56658. No. 10. *Julieta*.

56659. No. 9. *Melifera*.

56660. DIOSCOREA TRIFIDA L. f. Dioscoreaceæ. Yampi.

From Cristobal, Canal Zone. Tubers presented by James E. Lewis, manager, Hotel Washington, Cristobal. Received March 9, 1923.

"This yampi is usually of even form and somewhat club shaped, and the tubers are commonly 4 to 10 ounces in weight; the inner skin is pink. The flesh is white, but often becomes slightly grayish when cooked. The flavor is much like that of the white potato, but the yampi has in addition an agreeable sweetness." (R. A. Young.)

56661. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Italy. Seeds purchased from Girardino Allegra, Catania, Sicily, through Asher Hobson, American representative, International Institute of Agriculture, Rome. Received March 12, 1923.

A strain of locally grown red clover from Sicily, introduced for department specialists.

**56662 and 56663. ZEA MAYS L. Po-
aceæ. Corn.**

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, General Experiment Station. Received January 31, 1923. Quoted notes by L. Koch.

56662. "Madoera mais (Madura corn). Madura corn was obtained from the island of Madura. This is an early variety, maturing in Java in from 75 to 85 days. The plants remain low (under 6 feet) and produce as a rule not more than one ear. The variety is less susceptible to diseases and drought than others, this being one of the principal reasons for its culture. The yield is usually less than that of Yellow Menado, but under good conditions 50 and more bushels to the acre have been harvested. The grain is very popular with the Madurese, who eat it pounded as rice."

56663. "Gele Menado mais (Yellow Menado corn). This variety was received from the northern Moluccas, where it is planted extensively by the natives. It resembles very closely the Nation Yellow Flint from the Philippines and I presume that both varieties are the same. *Yellow Menado* is a flint variety of late maturity; it ripens at Buitenzorg in 115 to 120 days, growing to a height of 8 to 11 feet. It is prolific, 100 plants producing 150 to 180 ears, the percentage of sterile plants usually being low. At Buitenzorg, where the climate is not favorable for corn plantings, the average yield in the dry season is about 28 bushels per acre; in the wet season, however, it is much less. Under good conditions, such as after a green-manure crop, much higher yields have been reported (60 to 70 bushels per acre). The grain is of good taste and is very much favored by the natives."

**56664 and 56665. DAHLIA MAXONII
Safford. Asteraceæ. Dahlia.**

From Chimaltenango, Guatemala. Seeds presented by W. Cameron Townsend. Received March 12, 1923. Quoted notes by Mr. Townsend.

56664. "I think these seeds are of the 'White dahlia'; they were taken from plants cultivated in Chimaltenango."

56665. The wild tree dahlia of the Guatemalan highlands blooms in its native land in the months of December and January, and its starry lilac-pink flowers in graceful clusters on long stems make a very agreeable contrast with the dark-green hillsides. This beautiful plant is extremely abundant, both wild and cultivated, in many parts of the Guatemalan highlands at altitudes of 3,000 to 7,000 feet. The stems sometimes reach 15 or even 18 feet in height and become quite woody toward the base. The slender branches bear the clusters of nodding flowers, some of which measure 4 or 5 inches across. When brought into cultivation around the huts of the natives the species seems to lose its stability, and in place of the single lilac-pink flowers appear double pink and double white forms and, less commonly, single white varieties. This dahlia is subtropical in its requirements and should succeed in southern Florida, provided suitable soil conditions are found. (Adapted from *Journal of Heredity*, vol. 11, pp. 265-268.)

**56666. ALEURITES FORDII Hemsl.
Euphorbiaceæ. Tung-oil tree.**

From Hongkong, China. Seeds presented by H. Green, superintendent, Botanical and Forestry Department. Received March 12, 1923.

"A rapid-growing broad-leaved deciduous tree which attains a height of 25 to 35 feet. It is said to be comparatively short-lived. Clusters of pinkish

white flowers are produced just as the leaves begin to come out in the spring, followed by green or reddish fruits somewhat larger than those of the black walnut. The fruits contain the large nut-like oily seeds from which tung oil, a valuable drying oil, is expressed. The oil constitutes about 24 per cent (by weight) of the seeds, or about 40 per cent of the kernels from which the shells have been removed. The tree appears to be particularly well adapted to the sandy clay soils and the climate of northwestern Florida and the adjacent regions of Alabama and Georgia." (R. A. Young.)

For previous introduction, see S. P. I. No. 50635.

**56667. GARCINIA MANGOSTANA L.
Clusiaceæ. Mangosteen.**

From Kingston, Jamaica. Seeds presented by W. S. Goodman, acting superintendent, Hope Gardens. Received March 12, 1923.

Mangosteen seeds introduced from Jamaica for testing in our tropical dependencies.

For previous introduction, see S. P. I. No. 56070.

56668 to 56675.

From New England. Seeds presented by Dr. A. H. Hill, director, Royal Botanic Gardens. Received March 12, 1923.

Introduced for the use of specialists in the department engaged in forage-crop investigations.

56668 to 56670. LOTUS spp. Fabaceæ.

56668. LOTUS EDULIS L.

A more or less hairy annual with ascending or erect branched stems 4 to 16 inches long, short-stemmed grayish green leaflets, and large yellow flowers in few-flowered heads. The plant grows only in sandy areas in the Mediterranean region.

For previous introduction, see S. P. I. No. 51861.

56669. LOTUS REQUIENI Mauri.

A hairy ascending or erect plant with stems about a foot long, native to the vicinity of Rome, Italy. The leaflets are rhombic in shape and sharp pointed, and the flowers are small and red.

56670. LOTUS TETRAGONOLOBUS L.

A purple-flowered annual from the eastern Mediterranean countries, where it frequents the edges of cultivated fields, roadsides, etc. It is more or less hairy, with obovate leaflets. The edible seeds are sometimes used as a substitute for coffee, and the plant is often cultivated as an ornamental.

For previous introduction, see S. P. I. No. 38415.

**56671 to 56675. TRIFOLIUM spp. Fabaceæ.
Clover.**

56671. TRIFOLIUM ALPESTRE L.

A perennial clover with long underground roots, found over almost all the mountainous parts of Europe, especially in calcareous soils, and ascending to a height of 16,000 feet. The narrowly oval leaflets are velvety hairy, and the flowers are pinkish purple.

For previous introduction, see S. P. I. No. 35276.

56672. TRIFOLIUM ELEGANS Savi.

A smooth perennial clover with stems 8 to 20 inches long, found throughout Europe and the Caucasus, especially in siliceous soils. The flowers are whitish or pink. The plant is cultivated for forage.

For previous introduction, see S. P. I. No. 35275.

6668 to 56675—Continued.

56673. *TRIFOLIUM OCHROLEUCON* Huds.

A perennial clover with brown underground stems, which grows wild in western, central, and southern Europe. The flowers are yellowish. The plant multiplies by means of buds produced on the underground stems.

For previous introduction, see S. P. I. No. 25387.

56674. *TRIFOLIUM PANNONICUM* Jacq.

A clover with stems up to 10 inches long and yellowish flowers, found on the high mountains of southeastern France. It is considered by some authorities to be merely a race of red clover.

For previous introduction, see S. P. I. No. 28312.

56675. *TRIFOLIUM PHYSODES* Stev.

A perennial prostrate clover with oval leaflets and roundish heads of pink flowers which open in July and August. Native to southeastern Europe. In the flowering stage this species resembles white clover, but it does not creep.

56676. *ALEURITES MONTANA* (Lour.) Wilson. Euphorbiaceae. Mu-oil tree.

From Hongkong, China. Seeds presented by H. Green, superintendent, Botanical and Forestry Department. Received March 17, 1923.

Aleurites montana yields an oil from the seeds practically identical with that from *A. fordii*, the tung-oil tree of China. While the seeds of the two species are almost indistinguishable, the fruits are easily recognized by their exteriors; those of the former are prominently ridged, while those of the latter are smooth.

56677. *CASTANOPSIS DELAVAYI* Franch. Fabaceae. Chestnut.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received March 9, 1923.

"(No. 7742. December 1, 1922.) A tree 60 to 100 feet tall, with trunk 4 to 5 feet in diameter, which grows on the summit of the Salwin Ridge. The leaves are large, broadly ovate, coarsely serrate, glossy above and silvery beneath. The burs are in spikes, and the nuts are small, something like those of the chinquapin, and very sweet and palatable. This is identical with the chestnut sent from the Talifu-Yangpi Trail, No. 6682 [S. P. I. No. 56080]."

56678. *SOLANUM TUBEROSUM* L. Solanaceae. Potato.

From Bogota, Colombia. Tubers presented by Brother Ariste Joseph. Received February 26, 1923.

"These potatoes are from the Paramos de Guasca, where this curious variety is grown by the ancient tribe known as the Chibchas." (Ariste.)

56679 to 56683. *TRIFOLIUM* spp. Fabaceae.

From Reading, England. Seeds purchased from Sutton & Sons. Received March 20, 1923. Quoted notes from Sutton's Farmers' Yearbook.

Introduced for the use of department specialists engaged in clover breeding.

56679 and 56680. *TRIFOLIUM INCARNATUM* L. Crimson clover.

"These crimson clovers are used as catch crops. The seed is harrowed into the stubble as soon as the wheat crop is off, and sometimes it is sown in the spring."

56679. Late red. 56680. Late white.

56679 to 56683—Continued.

56681 to 56683. *TRIFOLIUM PRATENSE* L.

Red clover.

56681. "Red or broad clover. An indigenous strain used for fodder."

56682. "Sutton's cow grass or late-flowering red clover. A most valuable strain where ordinary red clover is unsuitable."

56683. "Sutton's Giant Hybrid cow clover. Produces a greater quantity per acre than any other clover, giving two and sometimes three cuttings a year. Duration two or three years."

56684. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Italy. Seeds purchased from Consorzio Agrario Cooperativo Canavesano, Ivrea, through Asher Hobson, American representative, International Institute of Agriculture, Rome. Received March 12, 1923.

A strain of locally grown red clover from Sicily introduced for specialists in the Department of Agriculture.

56685 and 56686. *PHASEOLUS* spp. Fabaceae.

From Chicacao, Guatemala. Seeds presented by Jorge G. Salas, Director General of Agriculture. Received March 20, 1923. Quoted notes by Señor Salas.

"From Chicacao, Solola; altitude 1,300 feet."

56685. *PHASEOLUS ADENANTHUS* G. Meyer.

"Frijol de animal."

56686. *PHASEOLUS* sp.

"Frijol de monte."

56687 and 56688. *PYRUS CALLERYANA* Decaisne. Malaceae. Pear.

From Nanking, China. Seeds purchased from J. Lossing Buck, acting dean, College of Agriculture. Received March 22, 1923.

Introduced for the use of department specialists engaged in pear-breeding investigations.

56687. From Hunan.

56688. From Kuling, Kiangsi.

56689 to 56692.

From Bedford, England. Plants presented by Laxton Bros. Received March 26, 1923. Quoted notes from catalogue of Laxton Bros.

56689 and 56690. *PYRUS* spp. Malaceae.

Pear.

56689. *PYRUS* sp.

"Superb. A hybrid between *Beurre Superfin* and *Williams*. A very early dessert pear of fine flavor, partaking of the good qualities of both its parents, but ripening earlier than *Williams*."

56690. *PYRUS* sp.

"*Beurre Bedford*. A hybrid between *Marie Louise* and *Durondeau*. The fruit, which is as large as *Marie Louise*, and borne as freely as *Conference*, is pear shaped, tapering at the end with a long stalk. The skin is yellow, marked with russet brown and crimson, and the juicy melting flesh is of very fine flavor. This is superior to any other October pear and a very heavy cropper."

56691 and 56692. *RUBUS* spp. Rosaceae.

56689 to 56692—Continued.

56691. *RUBUS* sp. Dewberry.

"Newberry. This is similar to the Logan blackberry, but darker and sweeter."

56692. *RUBUS* sp. Blackberry.

"Pollards. A blackberry which ripens later than *Edward Langley*, but is a strong grower and better adapted to exposed situations. The fruit clusters are very large, and the berries are rich in flavor and very juicy. This variety is strongly recommended for making jelly and jam."

56693 to 56696.

From Elstree, Herts, England. Plants presented by Hon. Vicary Gibbs, Aldenham House Gardens. Received March 26, 1923. Quoted notes by Edwin Beckett, superintendent.

56693. *MALUS SYLVESTRIS* Mill. Malacæ.
(*Pyrus malus* L.) Apple.

Variety *Aldenhamensis*. "This is a chance hybrid which occurred at Aldenham and is considered the finest of all red-flowered crab apples. It flowers three weeks later than *Malus niedzwetzkyana* and *M. purpurea* and, unlike the former, bears in autumn a large number of large dark-red fruits."

56694. *PYRACANTHA GIBBSII* A. Jackson. Malacæ. Firethorn.

A fine ornamental evergreen bush, vigorous and hardy, native to Hupeh and Szechwan, China. It becomes 12 to 14 feet high, is nearly spineless, and in the autumn bears large clusters of scarlet berries which contrast admirably with the glossy dark-green foliage.

For previous introduction, see S. P. I. No. 56451.

56695 and 56696. *STRANVAESIA DAVIDIANA* Decaisne. Malacæ.

56695. "This may be trained as a small standard tree, otherwise of bush form. The foliage is evergreen, and the terminal corymbs of white flowers are soon followed by the handsome bunches of scarlet fruits."

56696. "This yellow-fruited form was raised from the same batch of seeds as the preceding [S. P. I. No. 56695], but the fruits were found to have a distinct orange-yellow color. Seedlings of this may revert to the original type."

56697. *PHALARIS BRACHYSTACHYS* Link. Poacæ. Grass.

From Milan, Italy. Seeds presented by Fratelli Ingegneri. Received March 12, 1923.

Introduced for specialists in the department engaged in forage-crop investigations.

An annual grass a foot or two in height, native to the Mediterranean coastal regions. It is closely related to canary grass (*Phalaris canariensis*).

56698 and 56699. *GARCINIA* spp. Clusiaceæ.

From Brisbane, Queensland. Seeds presented by C. T. White, Government botanist. Received March 26, 1923.

56698. *GARCINIA GIBBSIAE* S. Moore.

A wild relative of the mangosteen which grows in forests in the Bellenden Ker Hills, at an altitude of about 2,000 feet. The leaflets are oval with mucronate tips, and the flowers, in clusters of two or three, are green, later

56698 and 56699—Continued.

turning brown. The fruit is not known. (Adapted from *Journal of Botany*, vol. 55, pp. 298, 502.)

56699. *GARCINIA MESTONI* F. M. Bailey. Meston's garcinia.

An erect, slender, graceful tree 20 feet or more in height, with drooping branches and glossy dark-green leaves. The roundish fruits, 2 or 3 inches in diameter, are of a bright-olive green, with very juicy pulp of a pleasant acid flavor. The tree grows wild in the Bellenden Ker Hills at an altitude of about 2,000 feet. (Adapted from *Report of the Government Expedition to Bellenden Ker Range, Queensland, 1889*, p. 31.)

For previous introduction, see S. P. I. No. 41802.

56700. *EREMOCITRUS GLAUCA* (Lindl.)

Swingle. Rutacæ.

(*Atlantia glauca* Benth.)

Australian desert kumquat.

From Dundas, New South Wales. Seeds presented by Herbert J. Rumsey. Received March 28, 1923.

"This is one of the most interesting of all citrus fruits and one which, curiously enough, has never yet received adequate attention from botanists or horticulturists. It was first mentioned by Leichhardt, the German explorer, to whom we owe much of our knowledge concerning the interior of the deserts of northeastern Australia. It is a shrub or small tree from 12 to 15 feet high, with a trunk 2 to 6 inches in diameter. It has small but thick leathery leaves of gray-green, and one is struck by the scantiness of the foliage. The flowers are small and the fruits about a half inch in diameter. An agreeable beverage is made from the acid juice and a fair preserve may be made out of the fruit. The peel has the sweetish flavor of the kumquat. It is known in Australia as the native lemon. The plant was described botanically in a footnote to Lieut. Col. Thomas Livingston Mitchell's 'Journal of an Expedition into the Interior of Tropical Australia in Search of a Route from Sydney to the Gulf of Carpentaria.' This plant was discovered on October 17, 1846, not far from Lieutenant Colonel Mitchell's camp, near the junction of the Maranoa and Merivale Rivers, in the southern limit of Queensland, latitude 26° S. Decidedly cold weather was encountered near this point, in some cases the ice being so thick that it had to be broken in the morning before the horses could drink. It seems quite probable from this that the plant grows in a region where the temperature occasionally falls to 10° F. and in rare cases nearly to zero. It is the hardiest of all evergreen citrus fruits and is very promising for use in breeding new and hardy types." (W. T. Swingle.)

For previous introduction, see S. P. I. No. 29537.

56701 to 56709. *ZEA MAYS* L. Poacæ. Corn.

From Sapporo, Japan. Seeds presented by M. Akemine, professor of plant breeding, Hokkaido Imperial University. Received March 21, 1923. Quoted notes by Professor Akemine.

Seeds introduced from the chief corn-producing regions of Japan and China, for the use of department specialists engaged in corn breeding.

56701. "A local yellow flint variety from Chosen."

56702 and 56703. "From Ehime."

56702. "A local white flint variety."

56703. "A local yellow flint variety."

56704. "A local yellow flint variety from Kumamoto."

56701 to 56709—Continued.

56705 to 56707. "From Manchuria, China."

56705. "A local white flint variety."

56706. "Lao-lai-tsou (white dent)."

56707. "Ma-ya-tsou (red dent)."

56708 and 56709. "From Sapporo."

56708. "Longfellow (imported from the United States about 35 years ago)."

56709. "Stephens Waushacum (imported from the United States about 25 years ago)."

56710 to 56745. IPOMOEA BATATAS (L.) Poir. Convolvulaceæ.

Sweet potato.

From St. Croix, Virgin Islands. Tubers represented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received March 22, 1923. Quoted notes by Mr. Thompson.

"All these seedlings were grown from seeds at this station during February, March, and April, 1922. The seeds were collected from plantings of the Big Wig, Key West 'yam,' and Black Rock varieties grown close together, and it is believed they may have been cross pollinated. We believe that there are good possibilities even from these seedlings which are most unpromising."

56710. "No. 2. A Big Wig seedling. Vines in nursery row 18 to 24 inches long, medium in thickness, green with red coloring at juncture with petiole. Leaf large, cordate, resembling that of Black Rock; red midribs and green veins. Tubers dark red. The original seedling plant yielded 5 tubers weighing 6 pounds 6 ounces. Flesh yellow, mottled with red."

56711. "No. 3. A Big Wig seedling. In the nursery row the vine growth was 2 to 4 feet in length, medium in diameter, green with red at juncture of petiole, and hairy. Leaf 3 parted, midrib and veins red, leaf growth dense. The tubers are red and the first or original seedling yielded 7 tubers weighing 1 pound 1 ounce. The color of the flesh is a rich yellow."

56712. "No. 4. A Big Wig seedling. Plants in the nursery row were 5 to 8 feet long, completely covering the soil. The stems were rather slender, green with red coloring at juncture of petiole. The leaves were numerous, 3 parted with red midribs. The tubers are coppery red, the flesh yellow, occasionally mottled with red. The original seedling bore 7 tubers weighing 2 pounds 8 ounces."

56713. "No. 5. A Big Wig seedling. The vines were 2 to 4 feet in length in the nursery row. The leaves were cordate and resembled those of Black Rock rather than those of Big Wig, and the seedling is probably a cross between these two varieties. The petioles, midribs, and veins are red and the tubers are a peculiar light red. The flesh is white, mottled with red. The original seedling plant yielded 12 tubers weighing 6 pounds 4 ounces."

56714. "No. 7. A Big Wig seedling. This seedling is as yet untested. The very leafy vine, 3 to 4 feet long, covers the ground completely. The leaves are dark green, broadly shouldered and lanceolate. The roots are red, flesh white. Although not thoroughly tested this is not regarded as a promising seedling."

56715. "No. 14. A Big Wig seedling. The vines in the nursery row were 2½ to 4 feet in length, numerous, green and leafy. Leaves numerous, making a dense growth

56710 to 56745—Continued.

and affording a perfect covering for the hill, broad, 3 parted, with long green petioles. The midribs and veins are green, but the tubers are red. The original seedling yielded 4 tubers weighing only 12 ounces. Flesh pale yellow, almost white."

56716. "No. 15. A Big Wig seedling. A rampant grower, vines 2 to 3 feet long, numerous, stout, chocolate colored, hairy. Leaves large, broad, pointed, very dark green, petioles green tinged with red, 10 to 12 inches long on old growth, midribs and veins red. Tubers dark red, flesh pale yellow. Original seedling yielded 2 tubers weighing 8 ounces."

56717. "No. 18. A Big Wig seedling. A rampant grower, the vines reaching out 8 or 10 feet on each side of the nursery row. This variety flowers profusely. Tubers red, flesh pale yellow. Not considered very promising."

56718. "No. 19. A Big Wig seedling. Vines in nursery row 18 to 24 inches long, bearing a dense growth of finely cut leaves. Leaves deeply cut and lobed, 5 parted, midribs red, veins green to wine colored. The tubers are dark red and the flesh a golden yellow sometimes mottled with red. Original seedling plant had no tubers."

56719. "No. 20. A Big Wig seedling. In the nursery row the stems were from 2 to 4 feet long and numerous. The leaves were numerous, dark green, with red midribs and veins. The original seedling plant yielded 6 tubers weighing 10 ounces. The tubers are a dark red with pale-yellow flesh sometimes mottled with a little red."

56720. "No. 22. A Big Wig seedling. In the nursery row the vines were slender, 2 to 4 feet in length and moderately leafy. Leaves broad, relatively short, pointed, 3 parted, midribs and veins green. Flesh of tubers deep yellow. The original seedling plant bore 12 tubers weighing 3 pounds."

56721. "No. 24. A Big Wig seedling. In the nursery row this vine was medium stout, 3 to 4 feet in length, leaves medium size, dull green, 3 and 5 parted (usually 3 parted). The tubers are light red, irregular in form, and show a tendency to burst and split badly. The variety shows a tendency also to produce tubers at the joints where they root, even at a distance from the hill. The original seedling plant produced 33 tubers weighing 13 pounds 8 ounces and was the heaviest producing hill among all the original plants. The flesh is pale yellow."

56722. "No. 26. A Big Wig seedling. In the nursery row this seedling shows short vine growth with rather sparse foliage. The stems are short and stout, attaining a maximum length of 2 to 3 feet. The leaves are lanceolate with a wine-colored midrib. The tubers are dark red and grow at the ends of fleshy roots that are 12 to 18 inches long; flesh white. The tubers are traversed by a number of pronounced ribs or veins. The original seedling yielded 4 pounds of tubers under very adverse conditions."

56723. "No. 28. A Big Wig seedling. Stems rather slender, 2 to 3 feet in length, green and leafy. Leaves broad, 3 parted, midrib wine colored. Tubers long, white, smooth, and hanging on roots in a cluster around the main stem, flesh creamy yellow. The original seedling plant produced 13 tubers weighing a total of 3 pounds 4 ounces."

56724. "No. 29. A Big Wig seedling. Stems short, stout, leafy, covering the ridge well, but not having sufficient length to completely cover the full area between rows. Leaves large, broad, 5 parted, midribs and

56710 to 56745—Continued.

veins red. The original seedling plant bore 15 tubers weighing 4 pounds 7 ounces. The tubers are light red, short and thick, and the flesh is yellow."

56725. "No. 30. A Big Wig seedling. Vines 2 to 4 feet long and densely covered with leaves. Leaves large, cordate, and dark green. Tubers light red, flesh yellow. The original seedling plant bore 7 small tubers weighing a total of 12 ounces."

56726. "No. 31. A Big Wig seedling. In the nursery row the vines are strong but short and sparsely leaved. The leaves are small with five deeply cut lobes. This variety shows a tendency to produce tubers at the nodes of the vines where they attach themselves to the soil. The tubers are a light red or rose, flesh yellow. The original seedling yielded 38 tubers weighing 5 pounds 4 ounces."

56727. "No. 39. A Big Wig seedling. Vines short, stout, bunching, and bearing an abundance of foliage. Leaves medium in size, 3 and 5 parted, midribs and veins wine colored. The tubers are dark red, flesh creamy yellow. The original seedling plant bore 1 tuber weighing 3 ounces."

56728. "No. 40. A Big Wig seedling. The stems are stout and numerous and about 18 inches in length. Leaves dark green, cordate, attractive, midrib and veins red. The tubers are dark red, flesh pale yellow. The original seedling plant bore no tubers."

56729. "No. 55. A Black Rock seedling. The stems are 2 to 3 feet long in our nursery row. The leaves are somewhat variable in form but usually lanceolate and bear some resemblance to those of the variety grown at this station under the name of the 'Key West yam.' The tubers are dark red and are borne on the ends of long fleshy roots; flesh rich yellow, also cooks yellow. The original seedling plant yielded 30 tubers weighing a total of 4 pounds 12 ounces."

56730. "No. 57. A Black Rock seedling. The stems are 2 to 5 feet in length, medium stout, and leafy. Leaves light green, large, broad, lanceolate, midribs wine colored, veins green. The tubers are light coppery red, smooth, and attractive. The flesh is a rich yellow. The original seedling plant bore 77 tubers weighing 8 pounds."

56731. "No. 58. A Black Rock seedling. The vine is 2 to 3 feet in length and very leafy. The leaves are cordate and rounded and the younger ones are wine colored, especially around the margins. The tubers are dark red, flesh yellow, mottled with red. The original seedling plant bore 37 tubers weighing 5 pounds

56732. "No. 73. A Big Wig seedling. Vines short, 1 to 2 feet long. Leaves broad and lobed, usually 5 parted, broad blade. The tubers are smooth and dark red, flesh yellow, often mottled with red. The original seedling hill bore 8 tubers weighing 1 pound 14 ounces.

56733. "No. 80. A Big Wig seedling. The vines are 2 to 3 feet in length and leafy. Leaves large, broad, 5 parted, dark green, midribs and veins amber. The tubers are white, flesh pale yellow, mottled with a little red. The original seedling plant bore 18 tubers weighing a total of 3 pounds 10 ounces.

56734. "No. 105. A Big Wig seedling. The vines are 5 feet or less in length and very leafy. Leaves large, deeply cut and lobed, the lobes narrow, midribs wine colored. Tubers light red and growing in clusters close to base of main plant. The original seedling plant bore 14 tubers having a total weight of 6 pounds 4 ounces. Tubers light red with pink underskin, flesh yellow."

56710 to 56745—Continued.

56735. "No. 110. A Big Wig seedling. The parent plant yielded 4 tubers weighing 5 ounces. Vines medium to long, reaching 3 to 5 feet or more from hills. Leaves not numerous, deeply cut and lobed, 5 parted, midribs and veins nearly green. The original seedling plant bore 11 tubers weighing 3 pounds 8 ounces. The tubers are smooth and light red, with pale-yellow flesh."

56736. "No. 142. A Big Wig seedling. Stems 1 to 3 feet long, green. Leaves small, green, cordate, midribs and veins green. The tubers have a smooth white exterior and yellow flesh."

56737. "No. 157. A Big Wig seedling. The parent plant bore 4 tubers weighing 12 ounces. The stems are short, bunching, and leafy. The leaves are 5 parted and have dark-red midribs and veins. The tubers are smooth and yellow, and the flesh is pale yellow or almost white with occasional faint red rings. The original seedling plant yielded 40 tubers weighing 5 pounds 1 ounce."

56738. "No. 195. A Black Rock seedling. The parent plant yielded 5 tubers weighing 12 ounces. Vines long, running to 6 feet or more from hill and covering the hill and interspaces well. Leaves medium in size, cordate to cordate-lanceolate in form, midribs green or amber, veins green. The original seedling plant bore 9 tubers weighing 4 pounds. The tubers were smooth and light red, the flesh a rich yellow."

56739. "No. 205. A Black Rock seedling the parent plant of which bore 5 tubers weighing 7 ounces. Vines 2 to 5 feet long, numerous and leafy. Leaves dark green, cordate, midribs wine colored. The original seedling plant bore 25 tubers weighing 5 pounds 4 ounces. The tubers are dark red with pale-yellow flesh."

56740. "No. 222. A Key West 'yam' seedling. The parent hill bore 2 tubers weighing 12 ounces. The vines are 2 to 4 feet in length, green. Leaves light green, midribs and veins green, cordate. The tubers are light rose, flesh yellow. The original seedling plant bore 26 tubers weighing 3 pounds 14 ounces."

56741. "No. 233. A Black Rock seedling. Tubers smooth, yellow; flesh yellow, sometimes mixed with a little red. Vines 2 to 3 feet long. Leaves cordate, midribs green. The original seedling plant produced 13 tubers weighing 6 pounds 2 ounces."

56742. "No. 240. A Black Rock seedling, not yet described. The original seedling plant yielded 26 smooth coppery red tubers with a total weight of 5 pounds 4 ounces; flesh yellow."

56743. "No. 251. A Black Rock seedling, not yet described. The original seedling plant produced 14 yellow tubers weighing 1 pound 11 ounces; flesh yellow."

56744. "No. 259. A Big Wig seedling. The parent hill yielded 5 tubers weighing 8 ounces. Vines short, bunching, about 2 feet long. Leaves small to medium in size, comparatively long, 3 to 5 parted. The original hill yielded 10 tubers weighing 3 pounds 8 ounces. The tubers are dark red and the flesh yellow."

56745. "No. 275. The parentage of this number is unknown. The original seedling plant bore 17 tubers weighing 8 pounds 1 ounce. The tubers are dark red and the flesh pale yellow, mottled with a little red."

56746 to 56755. MALUS SYLVESTRIS Mill. Malaceæ. (*Pyrus malus* L.) Apple.

From Damascus, Syria. Scions presented by Charles E. Allen, American consul. Received March 29, 1923.

"These apple varieties are grown in the Plain of Zebdani, about 25 miles northwest of Damascus, at an altitude of a little above 3,500 feet. The apples of this region, though small, are known for their delicious flavor and bring good prices in the markets of Syria and Palestine. The methods of culture are primitive, and it is believed that the quality and size of the apples could be greatly improved by modern methods." (Allen.)

56746. No. 1. *Dershawii*.

56747. No. 4. *Hamod*.

56748. No. 6. *Feudy*.

56749. No. 7. *Fatima*.

56750. No. 8. *Lazkani*.

56751. No. 9. *Iraki*.

56752. No. 10. *Hamani*.

56753. No. 12. *Zebdani*.

56754. No. 13. *Kilatty*.

56755. No. 14. *Marius*.

56756 to 56759.

From Shantung, China. Scions sent in by K. M. Gordon, South Shantung Industrial and Agricultural School of the American Presbyterian Mission (North), at the request of C. A. Reed, Bureau of Plant Industry. Received March 23, 1923. Quoted notes by Mr. Gordon.

56756 to 56758. *JUGLANS REGIA* L. Juglandaceæ. Walnut.

56756. "(No. 1.) From Cheng Chia Chuang, southwest of Tsingchowfu; the tree was one of the finest seen, and was said to have produced 600 cattie (about 800 pounds) of nuts the previous season."

56757 and 56758. "From Cheng Chia Chuang district."

56757. "(No. 2.)"

56758. "(No. 3.)"

56759. *PYRUS* sp. Malaceæ. Pear.

"(No. 5.) *Ya li* (Duck pear). From 35 li (about 10 miles) northwest of Tchow. The fruits are large, with thin smooth yellow skin and white juicy sweet flesh. This variety is a good keeper."

56760 to 56766.

From China. Scions sent in by K. M. Gordon, South Shantung Industrial and Agricultural School of the American Presbyterian Mission (North), at the request of C. A. Reed, Bureau of Plant Industry. Received March 26, 1923. Quoted notes by Mr. Gordon.

56760. *AMYGDALUS PERSICA* L. Amygdalaceæ. (*Prunus persica* Stokes.) Peach.

"(No. 4.) *Fei peach*. From 90 li (about 30 miles) northwest of Taianfu, Shantung. This is the most famous peach of China; it is a clingstone with the skin and flesh tinged with red."

56761. *CASTANEA MOLLISSIMA* Blume. Fagaceæ. Chestnut.

"(No. 7.) From Wan Chia Chang, 45 li (about 15 miles) northwest of Changli, Chihli. This tree, the finest I saw in China, is reported to produce very large sweet nuts."

56760 to 56766—Continued.

56762. *DIOSPYROS KAKI* L. f. Diospyraceæ. Kaki.

"(No. 3.) *Honey persimmon*. From Nan Tui Shou, 110 li (about 35 miles) southeast of Tsinanfu, Shantung. The skin slips off the small red fruits when they are ripe; they are very sweet."

56763 and 56764. *JUGLANS REGIA* L. Juglandaceæ. Walnut.

"From Wan Chia Chuang, Chihli. This district probably produces the best walnuts of China."

56763. "(No. 7.)" 56764. "(No. 8.)"

56765 and 56766. *PYRUS* spp. Malaceæ. Pear.

56765. *PYRUS* sp.

"(No. 2.) *Laiyang*. A variety from Laiyang, Shantung. The fruit is large and dark skinned, and said to be very fine grained, sweet, and juicy."

56766. *PYRUS* sp.

"(No. 6.) *Peking White*. From Tungshan, 35 li (about 10 miles) northwest of Peking. The fruit is small and round with light lemon-yellow skin and fine-grained sweet flesh."

56767. CASTANEA sp. Fagaceæ.

Chestnut.

From Tengyueh, Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received January 16, 1923.

Received without data; possibly the same as S. P. I. No. 56768, which comes from the same general region.

56768. CASTANOPSIS HYSTRIX DC.

Fagaceæ. Chestnut.

From southwestern Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received January 10, 1923.

"(No. 6716. October 24, 1922.) A lofty tree 80 to 100 feet tall, with trunks 3 feet in diameter, found in the pine forests of the Shweli Valley 40 li (about 12 miles) north of Lungling at an altitude of 6,000 feet. The smooth fawn-colored bark is flaky, and the straight ascending branches give the tree an oblong appearance. The burs are in long densely packed spikes, and the involucre are covered with long soft green spines. The small nuts are borne singly or in twos. This is one of the finest forest trees of the region. According to the natives the wood is very durable and never attacked by insects." (Rock.)

56769. SACCARUM OFFICINARUM L.

Poaceæ. Sugarcane.

From Honolulu, Hawaii. Seeds presented by H. P. Agee, director, Hawaiian Sugar-Planters' Association. Received March 28, 1923.

"D 1135. A sugarcane variety introduced for planting at Canal Point, Fla." (C. O. Townsend.)

56770 and 56771. TRIFOLIUM spp.

Fabaceæ.

From Jonkoping, Sweden. Seeds presented by Prof. Hernfrid Witte, Swedish Moor-Culture Association. Received March 28, 1923. Quoted notes by Professor Witte.

Introduced for department specialists engaged in clover-breeding investigations.

56770. *TRIFOLIUM HYBRIDUM* L.

Alsike clover.

"Genuine Swedish-grown alsike clover."

56770 and 56771—Continued.

56771. *TRIFOLIUM PRATENSE* L. Red clover.

"In Sweden this late-flowering type of red clover is grown for seed and hay throughout the country; the early-flowering type can be grown only in the South."

56772 to 56776. *TRIFOLIUM* spp. Fabaceæ.

From Copenhagen, Denmark. Seeds purchased from I. C. Bjerg Jensen. Received March 31, 1923.

Introduced for department specialists engaged in clover breeding.

56772 and 56773. *TRIFOLIUM PRATENSE* L. Red clover.56772. *Hersnap.*

For previous introduction, see S. P. I. No. 56285.

56773. *Tystoffe* No. 70.56774 to 56776. *TRIFOLIUM REPENS* L. White clover.56774. *Morso.*56775. *Stryno.*56776. *Polonian White clover.*

56777 to 56779.

From Yunnan, China. Collected by J. F. Rock, Agricultural Explorer of the U. S. Department of Agriculture. Received January 18, 1923. Quoted notes by Mr. Rock.

56777. *CASTANEA* sp. *Fagacæ.* Chestnut.

"(No. 6729. November 12, 1922.) Seeds collected in the hills back of Mengka."

56778. *LILIUM* sp. *Liliacæ.* Lily.

"(November 8, 1922.) Bulbs of a wild lily 12 to 15 feet in height, found in forests of *Quercus* and *Schima* 1½ days' journey west of Tengyueh, on the Taping watershed, at an altitude of 8,000 feet. The leaves are long and lanceolate, and the large, ample panicles probably contain 10 or 12 flowers, which are said to be large and white."

56779. *PHOTINIA* sp. *Malacæ.*

"(No. 6726. November 11, 1922.) Seeds of a tree 30 to 40 feet high with a dense crown, found on the plain and hills near Mengka, at 5,000 to 6,000 feet altitude. The leaves are pale green and lanceolate, and the flowers, said to be white, are in large panicles 5 inches across. In November the tree is one mass of deep orange-red fruits."

56780 and 56781. *NEPHELIUM* spp. Sapindacæ.

From Buitenzorg, Java. Seeds presented by the director, Botanic Garden. Received March 3, 1923.

56780. *NEPHELIUM LAPPACEUM* L. Rambutan.

"This well-known fruit is probably a native of the Malayan Peninsula. The fruit is popular both with Europeans and natives alike and claims a place amongst the best fruits of the East. The tree is of medium size and, when bearing a good crop of fruit, one of the most ornamental of trees. The small green flowers are produced in loose panicles and are unisexual. Trees having all male flowers are often met with; such trees, of course, bearing no fruit. The flowering period varies somewhat with the season, but usually the tree blooms in April and May and again to a lesser extent in September and

56780 and 56781—Continued.

October. The fruit takes about four months to mature, and the main crop is generally ripe in August and September, to be followed by another crop toward the end of the year. As with most fruits, the crop varies in quantity; some years such enormous crops of fruit are produced that a difficulty is experienced in disposing of them. A considerable number of slight variations are to be noticed on the rambutans grown here. The color of the fruit varies from yellow to crimson. There is much difference in the flavor of the fruit; some are acid while others are sweet and of a delicious flavor. Also the quantity of flesh on the stones varies considerably. In the best varieties the flesh comes away easily from the seed. The fruit is usually eaten raw as dessert, but it can also be stewed or made into a preserve.

"The rambutan will grow in most soils, but responds well to good cultivation. The writer has in mind a certain tree which was long unproductive; by judicious management this tree was brought into fine condition and bore quantities of fruit yearly. In this instance a trench was dug round the tree at about 4 feet radius from the trunk. A charge of dynamite was employed to loosen the subsoil and the trench refilled with a compost of good soil and well-rotted cow manure. Clearly the rambutan is a tree that likes deep cultivation and an open soil. It may be raised from seed sown under shade, though it appears highly desirable to propagate the best varieties by grafting on seedling stocks. The Malays frequently raise young trees by a process of marcottage termed 'tut' in the Malay language. The advantages of this method are several and have been explained previously. The rambutan is a fruit worthy of the plant breeder's attention. By selection and good cultivation it seems quite possible that well-flavored varieties might in time replace the poor kinds frequently met with." (*J. N. Milsum, Fruit Culture in Malaya, p. 79.*)

56781. *NEPHELIUM MUTABILE* Blume.

Pulasan.

"*Pulasan.* A Malayan tree which is similar to the rambutan in appearance, but differs in the fruit and in the leaves being gray beneath. The fruit is larger than that of the rambutan and is a deep purple-brown with short blunt processes. According to Ridley, the flavor is decidedly superior to that of the latter fruit." (*Macmillan, Handbook of Tropical Gardening, 2d ed., p. 176.*)

For previous introduction, see S. P. I. No. 42385.

56782 to 56784. *ORYZA SATIVA* L. Poacæ.

Rice.

From Seoul, Chosen. Seeds presented by the director, Department of Agriculture and Industry. Received March 20, 1923.

Early-maturing varieties introduced for department specialists engaged in rice-breeding experiments.

56782. *Kokuryomi Yaka.*56783. *Tamanishiki.*56784. *Waseshiniki.*56785. *MUSA GILLETII* Wildem. Musacæ.

Banana.

From Kisantu, Belgian Congo. Seeds presented by Père J. Gillet. Received March 21, 1923.

"From Lower Uele." (*Gillet.*)

For previous introduction and description, see S. P. I. No. 56485.

56786 to 56789.

From Burringbar, New South Wales. Seeds presented by B. Harrison. Received March 26, 1923. Quoted notes by Mr. Harrison, unless otherwise stated.

56786. *ALLOTHEROPSIS SEMIALATA* (R. Br.) Hitchc. Poaceæ. **Cockatoo grass.**

"A native grass which becomes 2 to 3 feet high in sandy soil."

"Cockatoo grass is excellent pasturage and of good seeding habit. It is leafy at the base." (Roland McKee.)

For previous introduction, see S. P. I. No. 41751.

56787. *CUDRANIA JAVANENSIS* Trecul. Moraceæ.

"*Cocklespur*. A thorny trailing shrub which should prove useful in making an almost impenetrable hedge."

The fruit, which is edible and of pleasant flavor, is irregular in shape and about as large as a small custard-apple.

For previous introduction, see S. P. I. No. 40618.

56788. *DAVIDSONIA PRURIENS* F. Muell. Cunoniaceæ.

56786 to 56789—Continued.

For previous introduction and description, see S. P. I. No. 56146.

56789. *PASPALUM SCROBICULATUM* L. Poaceæ. **Koda millet.**

"A native grass about a foot high, relished by all kinds of livestock."

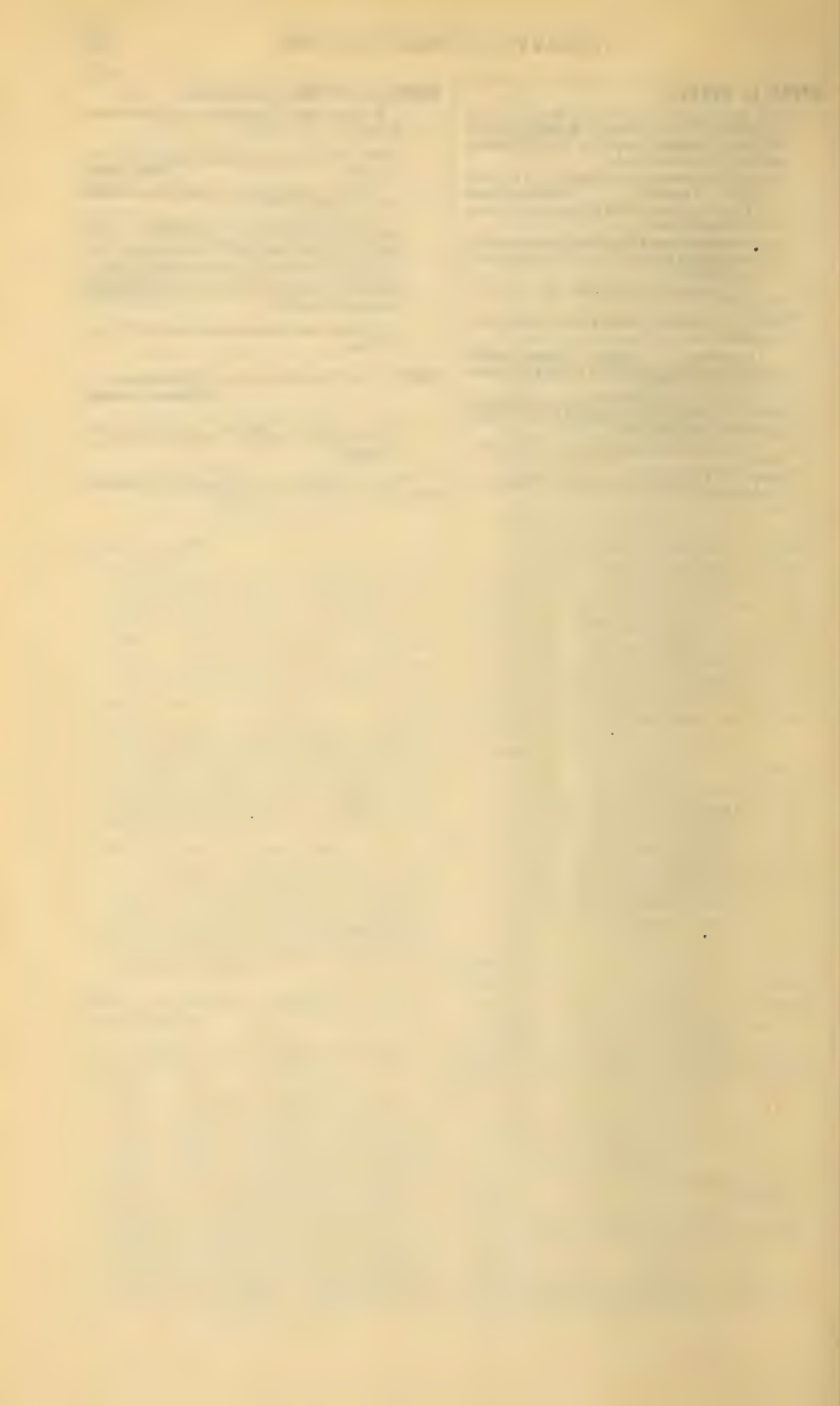
An erect annual grass averaging 2 feet in height, native to India, where it is also extensively cultivated for the edible grain. The grain is poisonous, however, unless kept for a number of years. Cattle are fond of the grass when it is young; at the time of ripening it is poisonous to stock.

For previous introduction, see S. P. I. No. 51317.

56790. *GOSSYPIUM* sp. Malvaceæ. **Kidney cotton.**

From Horqueta, Paraguay. Seeds presented by Thomas R. Gwynn. Received February 26, 1923.

"*Mandiyu*, single seeded. Especially strong and used for hammocks." (Gwynn.)



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INVENTORY No. 75



Washington, D. C.



Issued February, 1926

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1923 (NOS. 56791 TO 57679)

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INTRODUCTORY STATEMENT

When the first Inventory of Seeds and Plants Imported was prepared in 1898, there were practically no government plant-breeding institutions in existence, and almost all of the plants introduced were for direct trial as new crops. Few wild forms were represented, and almost no collections of seeds which were the result of the hybridization or selection work of foreign plant breeders. To-day, as is particularly evident in this inventory, an exchange between the plant breeders of the world is going on which shows a remarkable activity in this field. This practice should be encouraged, for it opens up a wide field of trial for any new variety, and it can be confidently predicted that out of these newly made and plastic forms are likely to come many great commercial varieties of the future. Forms which in the country of their origin have proved inferior to others may prove superior in some other environment.

This inventory contains a record of many selected and previously studied varieties of plants sent by foreign plant-breeding institutions: A collection of peanut varieties from the Department of Agriculture at Buitenzorg, Java (*Arachis hypogaea*; Nos. 56842 to 56849); a new strain of red clover from Dr. H. N. Knudsen's selection station in Denmark (*Trifolium pratense*; No. 56850); two new Hungarian wheats, one a selection of the famous Canadian Marquis wheat originated by Charles Saunders (*Triticum aestivum*; Nos. 56858 and 56859); a new oat from Dr. R. J. Mansholt, of the Royal Netherlands College of Agriculture (*Avena sativa*; No. 56892); three new strains of red clover from Dr. G. Martinet, of the Seed-Control Station, Lausanne, Switzerland (*Trifolium pratense*; Nos. 56896 to 56898); two recently evolved varieties of oats from the Svalof Seed-Breeding Station of Sweden (*Avena sativa*; Nos. 56899 and 56900); eight selected potato strains resistant to disease from the station for potato culture of Czechoslovakia (*Solanum tuberosum*; Nos. 56912 to 56919); over 200 selected seedlings of the sweetpotato (which seldom seeds in the United States) from J. B. Thompson, of the experiment station of the Virgin Islands (*Ipomoea batatas*; Nos. 56920 to 57012, 57395 to 57514); a collection of 22 varieties of barley from the Cambridge School of Agriculture, England (*Hordeum* spp.; Nos. 57013 to 57034); a hardy variety of red clover selected by Doctor Knudsen, of the Danish Royal Agricultural Society (*Trifolium pratense*; No. 57036); a large collection of varieties of barley, rye, and wheat from L. Dekapreleritch, Director of Plant Breeding, Tiflis, Transcaucasia (Nos. 57094 to 57210); a collection of clover varieties from Prof. N. I. Vavilov, of Petrograd (*Trifolium* spp.; Nos. 57229 to 57247); 12 strains of cotton, including the American Pima variety after being grown three generations in Egypt, from Dr. R. H. Forbes, formerly of Arizona (*Gossypium* spp.; Nos. 57248 to 57259); and a collection of grass and cereal varieties from the Russian experiment station of Ekaterinoslav (Nos. 57515 to 57611).

The growing volume of the selections which are being made by foreign plant breeders indicates a greater appreciation on the part of governments of the value of plant varieties in the agriculture of their countries.

The special explorations made by Dr. H. V. Harlan through North Africa, extending into India, in search of certain useful plant characters, which through sporting or otherwise have made their appearance in the barley fields of these regions, mark, it is believed, a turning point in the development of plant introduction and plant breeding alike. They attract attention to the value of a character, such as that of silkiness instead of harshness of awns, as a desirable thing to introduce and incorporate into American barleys through crossing. In the beginning new varieties were introduced because they might themselves be better than those we had. Varieties are now being introduced which are known to be inferior to those already grown in all but perhaps one or two characters, for the purpose of incorporating these superior characters into new and superior strains. Doctor Harlan's collections, a few of which appear in this inventory, will be found described under Nos. 57042 to 57074 and 57612 to 57664 (which include what is reported to be the original Mariout barley that has been so successful in America).

Of the other introductions in this seventy-fifth inventory, the following appear unusually interesting to the writer:

Rock's wild apple from the Likiang Snow Range of Yunnan, *Malus yunnanensis* (No. 57225), which grows at altitudes of 10,000 feet among the rocks on the borderland of Tibet and bears large corymbs of yellow and red fruits about an inch in diameter, and his fragrant-scented rich-pink-flowered *Luculia* (No. 56825) which he found on the Shweli-Salwin Divide in Yunnan and that he declares is "one of the handsomest shrubs of which I know," with salver-shaped flowers 2 inches across; Matsuda's three wild varieties of the Japanese persimmon, or kaki, from the mountains of Kyusiu Island, Japan, one of which may prove to be the wished-for ideal stock for the fine cultivated varieties now assuming rapid commercial importance (*Diospyros kaki*; Nos. 56831 to 56833); Mundy's "perennial Sudan grass," a variety which volunteers readily from seed, especially on cultivated land, and is a form of *Sorghum arundinaceum* (No. 56801); Roberts's long, fleshy cucumber (*Cucumis sativus*; No. 56805) from the Malwa Plateau of Rajputana, India, which is grown there in the hot rainy season and may prove adapted to cultivation in our Southern States in the summer; the eight varieties of bor, or Indian jujube (*Ziziphus mauritiana*; Nos. 56812 to 56819), sent in by G. S. Cheema from Poona, India, a species that has already become naturalized in southern Florida through the efforts of this office and is being used as a stewed fruit by a number of people; Nilsson's mutation of the ordinary European aspen *Populus tremula* (Nos. 56871 and 56872), which was found in the woods of western Sweden (it is fastigate, resembling the Lombardy poplar, and may prove useful for dooryards); Cooper's seed of the beautiful yellow flowering shrub, *Prinsepia sinensis* (No. 57087), from the mountains back of Patung, Hupeh. The early-flowering hardy character of this Chinese shrub, as Professor Sargent has already pointed out, will make it popular throughout the North Atlantic States, where it is hardy. The handsome deep-blue flowering *Exacum zeylanicum macranthum* (No. 57260), relative of our gentian, which Frank B. Noyes, of Washington, brought back from the mountains of Ceylon, may thrive in Florida and southern California. The supply of seeds of the grumichama of Brazil, *Eugenia dombeyi* (No. 57270), which Willis T. Pope sent from Honolulu, is of interest because this highly ornamental new fruiting shrub has proved hardy in southern Florida, and its cherrylike fruits are sure to be appreciated by those who can grow it. Johansen's *Triplaris cumingiana* (No. 57092), a striking ornamental tree from the Isthmus of Panama, deserves a place in the parks of the tropical world. A remarkable collection of seeds of hardy trees and shrubs presented by A. D. Woeikoff, director of the experimental farm at Echo, Manchuria, and including such rare species as *Betula davurica* (No. 57278), *Acanthopanax senticosum* (No. 57274), *Euonymus hamiltonianus* (No. 57281), *Prunus maackii* (No. 57310), *Tilia amurensis* (No. 57345), *T. mandshurica* (No. 57346), *Viburnum burejaeticum* (No. 57366), and *Prinsepia sinensis* (No. 57309), can not fail to be valuable in the ornamental plantings of the parks and dooryards in the Northwest.

As during the years past, the work of determination of the names of the various species introduced has been done by H. C. Skeels. The descriptive notes have been prepared by Paul Russell, who has had general supervision of this inventory.

DAVID FAIRCHILD,

Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., May 25, 1925.

INVENTORY¹

56791. DILLENIA INDICA L. Dillenia- ceæ.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received May 25, 1923.

A handsome medium-sized tree with a round compact crown; the dark-green leaves are 15 inches long and 3 inches wide. The large white flowers are fragrant and very attractive. The smooth greenish heart-shaped fruits, 3 inches long and 4 inches wide, are produced in great profusion, maturing in September and October. The edible part consists of the large fleshy sepals which inclose the carpels and are pleasantly acid, suggesting the flavor of an unripe apple. In India the sepals are used in making jelly and cooling drinks and are also used in curries. (Adapted from *Philippine Agricultural Review*, vol. 10, p. 16.)

For previous introduction, see S. P. I. No. 49713.

56792. PRUNUS SEROTINA Ehrh. Amygdalaceæ. Capulin.

From Cuenca, Ecuador. Seeds presented by Dr. Federico Malo. Received May 26, 1923.

"Capulin seeds of a number of good varieties, collected in the vicinity of the Challuabamba Valley, about 11 kilometers from Cuenca, Ecuador." (Malo.)

To be grown for selection of promising seedlings.

For previous introduction, see S. P. I. No. 55765.

56793. TRIFOLIUM INCARNATUM L. Fabaceæ. Crimson clover.

From Paris, France. Seeds presented by H. Fauchet and A. Plessis. Received May 26, 1923.

Locally grown seed introduced for department specialists engaged in clover breeding.

56794. CUCUMIS sp. Cucurbitaceæ.

From Johannesburg, South Africa. Seeds presented by A. J. Bester. Received May 28, 1923.

"A 'cucumber' which I found being grown by the natives. It makes a very fine salad." (Bester.)

56795. TRIFOLIUM PRATENSE L. Fa- baceæ. - Red clover.

From Wellington, New Zealand. Seeds presented by A. H. Cockayne, biologist, Department of Agriculture. Received May 29, 1923.

"Grown on the Canterbury Plains in the South Island, New Zealand." (Cockayne.)

Locally grown seed introduced for department specialists engaged in clover breeding.

56796 and 56797. LYCOPERSICON ESCU- LENTUM Mill. Solanaceæ. Tomato.

From Nancy, France. Seeds presented by Edmond Gain, director, Botanic Garden. Received May 31, 1923.

Introduced for department specialists engaged in the study of tomato diseases.

56796. Var. *pyriforme*. A pear-shaped form of the common tomato.

56796 and 56797—Continued.

56797. Var. *pimpinellifolium*. A South American form, sometimes called the "currant tomato," with 2-ranked racemes of red fruits somewhat larger than a large red currant. The plant grows wild in Peru and Brazil, is very vigorous and comparatively hardy, and the fruits are excellent for preserving. (Adapted from Sturtevant, *Notes on Edible Plants*, p. 347.)

56798. STYLOSANTHES ERECTA Beauv. Fabaceæ.

From Boma, Belgian Congo. Seeds presented by the General Secretary, Belgian Congo Government General. Received May 26, 1923.

"This plant prospers in sandy soils, but does not thrive in black, humid soils. It is very drought resistant. In Guadeloupe horses search through the pastures for this plant." (The General Secretary.)

A copiously branched ascending shrub about 4 feet high, with broad, rather stiff, compound leaves, and terminal oblong heads of inconspicuous flowers. It is native to tropical Africa. (Adapted from Olinier, *Flora of Tropical Africa*, vol. 2, p. 156.)

Introduced for department forage-crop specialists.

56799. GARCINIA BUCHANANI Baker. Clusiaceæ.

From Dominica, British West Indies. Seeds presented by Alfred Keys, assistant curator, Botanic Gardens. Received June 6, 1923.

A tropical African relative of the mangosteen (*Garcinia mangostana*), introduced for breeding experiments with the mangosteen.

56800. PHYTOLACCA CLAVIGERA W. W. Smith. Phytolaccaceæ.

From Edinburgh, Scotland. Seeds presented by William W. Smith, regius keeper, Royal Botanic Garden. Received May 19, 1923.

A robust perennial about 4 feet high, first discovered in Yunnan, China, by George Forrest. It bears rounded terminal spikes of small rosy flowers which are followed by dense club-shaped masses of black fruits. The plant has flowered and fruited freely at the Royal Botanic Garden, Edinburgh, Scotland. (Adapted from *Gardeners' Chronicle*, ser. 3, vol. 71, p. 39.)

56801 and 56802. SORGHUM spp. Poa- ceæ.

From Salisbury, Rhodesia. Seeds presented by H. G. Mundy, Chief Agriculturist and Botanist of the British South Africa Co., through H. N. Vinall, Bureau of Plant Industry. Received June 7, 1923. Quoted notes by Mr. Mundy.

Introduced for department agronomists.

56801. SORGHUM ARUNDINACEUM (Willd.) Stapf.

"This is called locally 'perennial Sudan grass'; it is closely related to Sudan grass. In its natural habitat it grows on heavy, black, fertile lands and is apparently quite

¹ It should be understood that the varietal names of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Seed and Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their identity fully established, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized American codes of nomenclature.

56801 and 56802—Continued.

perennial. It does not spread by underground roots but volunteers very freely from seed, especially where the land has been cultivated. The stems are somewhat woodier and more canelike than those of Sudan grass."

56802. *SORGHUM VERSICOLOR* Anderss.

"This is called locally 'black Sudan grass.'"

56803. *SOLANUM TUBEROSUM* L. Solanaceæ. Potato.

From Bogota, Colombia. Tubers presented by Brother Ariste Joseph. Received June 8, 1923.

"The yellow-fleshed potato is one of the most interesting varieties found in the Andean region, home of many remarkable potatoes. The tubers are rather small and have deep eyes, so that they are not as easily prepared for the table as those of some other varieties; but in point of quality they yield to none that I have tasted. The flesh is the color of American butter and has a rich, nutty flavor suggesting that of the chestnut. It seems to me the variety might be improved, so as to do away with the objectionable eyes, and that it would then be worth extensive cultivation." (*Wilson Popenoe*.)

56804. *TETRASTIGMA* sp. Vitaceæ.

From Belgian Congo. Seeds presented by C. Passau, Kilometer 309, near Kongolo. Received June 5, 1923.

"An annual climber greatly resembling the grape in habit, fruits, and general appearance, with non-woody stems from 30 to 50 feet in length. The plant seems to require having its feet in the shade and its head in the sun; it is never found in real forests, but grows up through underbrush." (*Passau*.)

56805. *CUCUMIS SATIVUS* L. Cucurbitaceæ. Cucumber.

From Jaipur, Rajputana, India. Seeds presented by Sir James Roberts. Received April 2, 1923.

"This cucumber is from Malwa, Central India. It is 18 to 20 inches in length and thicker and more fleshy than the ordinary cucumber varieties. It is grown in the rainy season, and as the Malwa Plateau is nearly 2,000 feet above sea level the temperature at that season is lower than in many parts of India. I believe that this variety should do well in the warmer parts of the United States." (*Roberts*.)

56806. *TRIFOLIUM PRATENSE* L. Fabaceæ. Red clover.

From Reading, England. Seeds presented by Sutton & Sons. Received April 2, 1923.

Wild red clover.

Introduced for department specialists engaged in clover breeding.

56807. *TRIFOLIUM PRATENSE* L. Fabaceæ. Red clover.

From Groningen, Netherlands. Seeds purchased from C. Broekema, manager, Groninger Zaaizaadvereeniging.

Rozendaal red clover.

Introduced for department specialists engaged in clover-breeding investigations.

For previous introduction, see S. P. I. No. 54889.

56808 to 56810.

From Verrieres le Buisson, Seine et Oise, France. Presented by A. Meunissier. Received April 3, 1923.

56808. *CARAGANA BOISI* C. Schneid. Fabaceæ.

Seeds of a handsome bush 10 to 12 feet high, with long, arching branches, native to Szechwan and eastern Tibet, China. In May the light-green foliage and numerous yellow flowers make this an especially attractive ornamental. (Adapted from letter of A. Meunissier, May 18, 1923.)

56809 and 56810. *CRATAEGUS LAVALLEI* Herinq. Malaceæ. Hawthorn.

"A tree of garden origin with pure-white flowers and red fruits an inch in diameter, well displayed by the rich-brown leaves in autumn." (*H. C. Seels*.)

For previous introduction, see S. P. I. No. 54078.

56809. Seeds.

56810. Scions.

56811. *IRIS* sp. Iridaceæ. Iris.

From western Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Received April 3, 1923.

"(February 6, 1923.) Seeds collected from a fruiting plant about 2 feet high found in the snow at an altitude of 8,900 feet on the crater of the extinct volcano Tayinshan, near Tengyueh. The natives say that this is a very handsome plant with large, purplish blue flowers." (*Rock*.)

56812 to 56819. *ZIZIPHUS MAURITIANA* Lam. (*Z. jujuba* Lam., not Mill.) Rhamnaceæ. Bor.

From Poona, Bombay, India. Seeds presented by G. S. Cheema, Horticulturist to the Government of Bombay, College of Agriculture. Received April 4 and 11, 1923.

"The bor, or Indian jujube, is grown throughout India for its fruits, which are usually small and more or less spherical in the wild forms. The cultivated kinds which have been selected are larger and oval or oblong in shape. When cooked some of the varieties have a very pleasing acid flavor not unlike that of plums. The bor is a valuable fruit for the warmer parts of Florida and other Southern States, and merits serious consideration as a home fruit in these sections." (*C. C. Thomas*.)

For previous introduction, see S. P. I. No. 55485.

56812. No. 13.

56816. No. 17.

56813. No. 14.

56817. No. 19.

56814. No. 15.

56818. No. 21.

56815. No. 16.

56819.

56820. *ROSA SEMPERVIRENS* L. Rosaceæ. Rose.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received April 12, 1923.

A shrubby wild rose which grows in hedgerows and rather dry situations in the southern and western parts of France. The shining green leaves, composed of five to seven leaflets, are persistent throughout all or part of the winter, and the single white flowers appear from May to July. There are a number of horticultural forms cultivated as ornamentals. (Adapted from *Bonnier, Flore Compleète de France*, vol. 4, p. 6, pl. 181.)

For previous introduction, see S. P. I. No. 32960.

56821. ANDROCYMBIUM PUNCTATUM
(Cav.) Baker. Melanthaceæ.

From Tripoli, Libya, North Africa. Bulbs presented by E. O. Fenzl. Received April 4, 1923.

A stemless ornamental of the Amaryllis family, native to the Cape of Good Hope. The flowers, whitish with green veins and purple stamens, are in a dense umbel surrounded by about four narrow, spreading, bright-green leaves 5 or 6 inches long. (Adapted from *Gardeners' Chronicle*, vol. 1, new series, p. 786.)

56822. GARCINIA MANGOSTANA L. Clusiaceæ. **Mangosteen.**

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, General Experiment Station, Department of Agriculture, Industry, and Commerce. Received April 11, 1923.

Mangosteen seeds introduced from Java for testing in our tropical dependencies.

For previous introduction, see S. P. I. No. 56667.

56823 to 56829.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Received April 2, 1923. Quoted notes by Mr. Rock.

56823. GORDONIA sp. Theaceæ.

"(No. 7884. Tienyinssu. January, 1923.) A shrub about 8 feet high found at an altitude of 6,000 feet. The handsome white flowers are 1½ inches across, and the fruit is a woody capsule."

56824. LIGUSTRUM sp. Oleaceæ. **Privet.**

"(No. 7877. Wolung. January, 1923.) A very ornamental shrub 10 feet high which grows among lava boulders near Tengyueh at an altitude of 6,000 feet. The cream-colored flowers are in large pyramidal clusters."

56825. LUCULIA sp. Rubiaceæ.

"(No. 7824. December, 1922.) A handsome shrub 6 to 18 feet in height which grows on the Shweli-Salwin Divide in mixed rain forests at an altitude of 8,000 feet and also in open gulches at a slightly lower altitude, even as low as 6,000 feet, but reaches its best development at 8,000 feet. In winter this region is often covered with snow and ice. The bright-green narrow leaves have reddish stems, and the rich-pink flowers are in large terminal corymbs 6 inches wide. The individual flowers are deliciously fragrant and nearly 2 inches across, with a salver-shaped corolla and a tube an inch long. This is one of the handsomest shrubs of which I know."

56826. PITTOSPORUM sp. Pittosporaceæ.

"(No. 7886. Kaotien. January 21, 1923.) A tree 30 to 40 feet high, handsome in shape and foliage, with cream-colored flowers borne in large terminal panicles and red fruits."

56827 and 56828. RHODODENDRON spp. Ericaceæ.**56827. RHODODENDRON sp.**

"(No. 7865. Homushu. December, 1922.) A shrub 10 to 15 feet high, which grows at an altitude of 8,000 feet on the summit of the Salwin watershed in dense forests but near the margins. The oval dark-green leaves, deeply wrinkled above, are covered with matted brown wool, as is also the inflorescence. The flowers are white."

56823 to 56829—Continued.**56828. RHODODENDRON sp.**

"(No. 7866. Kaotien. January 6, 1922.) A handsome compact shrub 6 to 8 feet high, found in forests 2 days' travel from Tengyueh at an altitude of 6,500 feet. The uniformly green leaves are quite narrow, and the flowers are said to be white."

56829. SCHIMA sp. Theaceæ.

"(No. 7864. Homushu. December, 1922.) A fine tree 30 to 40 feet in height, which grows in dense forests on the Salwin watershed at an altitude of 8,000 feet. The leaves are narrowly oval, the flowers are white, and the fruits are small globular capsules. There are about four species of Schima found in Yunnan, and this one is rarer than the others."

56830. TRIFOLIUM INCARNATUM L. Fabaceæ. **Crimson clover.**

From Valence sur Rhone, France. Seeds purchased from Tézier Frères. Received April 12, 1923.

Locally grown seed introduced for department specialists engaged in clover breeding.

56831 to 56833. DIOSPYROS KAKI L. f. Diospyraceæ. **Kaki.**

From Osaka Machi, Tokyo, Japan. Seeds presented by Sengo Matsuda. Received April 6, 1923. Quoted notes by Mr. Matsuda.

Wild kaki varieties introduced as stocks for the cultivated sorts.

56831. "Gara-gara" (prolific bearer). A very stout tree from the mountainous districts of Kyusiu Island. The sour fruits are pickled, and the juice is used for waterproofing purposes."

56832. "Tsurushi-gaki." This is good for using dried."

56833. "Yama-gaki." Sour fruits used for pickles."

56834 to 56837. SOJA MAX (L.) Piper. (*Glycine hispida* Maxim.) Fabaceæ. **Soybean.**

From Liaoyuanchow, Manchuria, China. Seeds presented by H. C. Chang. Received April 12, 1923. Quoted notes by Mr. Chang.

56834. "Black" (green inside)."

56835. "Black" (yellow inside)."

56836. "Green." **56837. "Yellow."**

56838 to 56841. MANGIFERA INDICA L. Anacardiaceæ. **Mango.**

From Honolulu, Hawaii. Plants presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received April 12, 1923. Quoted notes by Mr. Pope.

56838. "West India No. 9." This variety, now quite common in Hawaii, was introduced about 1885 under this name by Joseph Marsden.

"Description of fruit: Shape resembling the letter S; stem prominent; size from 3½ to 4½ inches long, from 2½ to 2¾ inches broad, and from 2 to 2½ inches thick; color before fruit is mature green, turning to a pale yellow when ripe, with a slight blush of pink on the upper end of the exposed side; peeling qualities very good; texture variable but in most specimens rather fibrous; flesh light yellow, sweet but watery; seed small; tree an abundant bearer. The fruit appears to be quite resistant to the attacks of the mango blight."

56838 to 56841—Continued.

56839. "*Kalihi chutney* mango. Original tree supposed to be a cross between West Indian No. 5 and some other mango. It grows near the Kalihi stream, King Street, Honolulu. The tree is vigorous and prolific, and the fruit is large, handsome, and of excellent quality.

"Description of the fruit: Size medium to large; shape almost round with blunt double apex; weight varying from 8 to 12 ounces; weight of seed about three-fourths ounce; color, a beautiful golden apricot, splashed with a few irregular dashes of bright red about the shoulder, yellow dots visible all over the surface of the fruit. Flesh yellow to orange-yellow, firm, with little fiber and of a most delicious rich flavor. An excellent keeper."

56840. "*Victoria* mango. The original tree, *Victoria No. 9*, is a seedling growing on the residence property of Thomas G. Thrum, Honolulu, Hawaii. During the eighties a number of mango seeds were brought from the West Indies by Joseph Marsden, a Government official of Hawaii. Among the seedlings developed from the introduced seeds was one known as No. 9. In 1897 a seed of this No. 9 was given to Mr. and Mrs. George Ashley. Mrs. Ashley germinated this seed, setting it in the front yard in its present location on June 20, 1897, the date of the Diamond Jubilee of Queen Victoria of England. For this reason the tree was called *Victoria No. 9*. When it fruited it was discovered that the fruit was different from any of the other mangos growing in Hawaii, particularly in color. Its qualities are superior to any of those mangos formerly brought to Hawaii by Mr. Marsden.

"The tree has proved to be very prolific, often producing as many as three distinct crops per year. The fruits are but little clustered, generally hanging singly on individual stems. From the time the fruits set they are red, becoming more brilliant on ripening. Like some other mangos, the *Victoria No. 9* reproduces its quality of fruit fairly true on seedling trees.

"Description of the fruit: Size medium, weight about 9 ounces; shape oblong, slightly S shaped and necked somewhat at the stem end; apex broadly rounded with curve ending in a small blunt beak which sometimes contains a small hole-like depression; color when ripe shaded with brilliant vermilion over yellow ground color which is most evident at apex. Surface marked with small yellow dots which become indistinct where red is deepest. Shoulder of fruit has delicate powdery bloom. Skin of medium thickness, strong enough to peel well. Odor pleasant. Ripe flesh a deep rich yellow, of good texture; juice sweet acid and of flavor of the Pirie mango. Seed small, weight three-fourths of an ounce. In marketing qualities this ranks among the best varieties in Hawaii."

For previous introduction, see S. P. I. No. 54690.

56841. "*Whitney* mango. Original tree a seedling of the sweet Hawaiian mango, growing in the yard of Dr. J. M. Whitney, 1325 Punahou Street, Honolulu. This variety grows large and vigorous and is a prolific bearer.

"Description of fruit: Size medium; shape oblong, broader than thick, with a rather extended, pointed apex; weight 8 to 10 ounces; color when ripe light greenish yellow with light dots; skin rather tough; peeling qualities fair. Flesh light yellow, without fiber, melting, sweet, and of excellent flavor. It is claimed that the fruit of this variety has never shown signs of having been stung by the fruit fly. A good variety for the fresh-fruit market."

56842 to 56849. *ARACHIS HYPOGAEA* L.
Fabaceæ. Peanut.

From Buitenzorg, Java. Seeds presented by Carl Hartley. Received April 12, 1923. Quoted notes by Mr. Hartley.

56842 to 56849. "The following numbers are of the Holle type. This type has a seed considerably heavier than the Broel and, of course, a larger pod. It is also an early-ripening bunch type, though not quite as pronounced in these characters as the Broel. It is ordinarily harvested on low and middle elevations in Java in 100 days after the seed is sown. It is by far the most popular type. It is my understanding that these varieties were tried by the United States Department of Agriculture in South Carolina last year and that they indicated high yielding ability but a much longer growing period than in Java."

56842. "No. 50. Obtained from Menado."

56843 to 56846. "From native sources in Java."

56843. No. 52. 56845. No. 66.

56844. No. 64. 56846. No. 67.

56847. "No. 77. The so-called 'Pure Line 21' of the Department of Agriculture's selection station at Buitenzorg. This is probably the best number from the standpoint of productiveness."

56848. "No. 78. The so-called 'White Hybrid No. 3' of this station."

56849. "*Broel*. This is a mixture of various Broel races from Java and Sumatra. The Broel is a very early ripening bunch type with small pods and short nuts. It is cultivated to a considerable extent in eastern Java on soils which are poor and on which other varieties showed too high a percentage of unfilled pods. In general, it is not as popular as the Holle type. It corresponds very closely to the American type known as 'Spanish.'"

56850. *TRIFOLIUM PRATENSE* L. Fa-
baceæ. Red clover.

From Copenhagen, Denmark. Seeds presented by H. N. Knudsen, Danish Royal Agricultural Society. Received April 12, 1923.

"*Hersnap*. This is a Danish strain and has given, with us, a higher yield than foreign seed." (Knudsen.)

Introduced for department specialists engaged in clover-breeding investigations.

For previous introduction of this variety, see S. P. I. No. 56285.

56851 and 56852. *ANANAS* sp. Bro-
meliaceæ. Pineapple.

From Vicosa, Minas Geraes, Brazil. Seeds presented by P. H. Rolfs, director, Escola Superior de Agricultura e Veterinaria. Received April 13, 1923. Quoted notes by Mr. Rolfs.

"These are considered to be wild pineapples and are very abundant here. In general the fruits are cylindrical, about 4 inches in diameter and 6 inches long. The crowns are medium sized in comparison with the size of the fruit, and crown slips are produced as well as basal ones. In color the fruits vary from white to dull green and red. The leaves are long and narrow, with very rigid and very sharp spines set quite a distance apart; they remind one of the leaves of the *Ananas raton* of the Cubans, which also grows wild here. The bract which subtends each segment of the fruit is so large that, when the fruit is ripe, the bract laps over the subtended segment. These pineapples should be useful in hybridization experiments."

56851 and 56852—Continued.

56851. "(No. 1. March 12, 1923.) From several fruits."

56852. "(No. 2. March 12, 1923.) From one fruit."

For illustrations of this pineapple, see Plate I.

56853. MEDICAGO SATIVA L. Fabaceæ. Alfalfa.

From Tucuman, Argentina. Seeds presented by W. E. Cross, Estación Experimental Agrícola. Received April 13, 1923.

"*Inverniza No. 3*. A new variety which we discovered in this section; it is of the same type as the smooth form of Peruvian alfalfa, but of considerably greater vigor and also of greater permanence when once established." (Cross.)

56854 and 56855.

From Avondale, Auckland, New Zealand. Seeds presented by H. R. Wright. Received April 13, 1923. Quoted notes by Mr. Wright.

56854. CUCURBITA PEPO L. Cucurbitaceæ. Vegetable marrow.

"This is the vegetable marrow as grown by the natives of New Zealand. It is a good keeper and can be used either green or ripe."

56855. PHYSALIS PERUVIANA L. Solanaceæ. Poha.

"*Golden Nugget*. A new variety of Cape gooseberry. It is not a dessert fruit, but is suitable for making jam."

56856. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Helsingfors, Finland. Seeds purchased through Leslie A. Davis, American consul, from Centralandelslaget Labor m. b. t. Received April 13, 1923.

"This strain has been cultivated in Finland for about 34 years." (Ernst Hasselblatt.)

Introduced for the use of department specialists engaged in clover breeding.

56857. RHODODENDRON DELAVAYI Franch. Ericaceæ. Rhododendron.

From Tengyueh, Yunnan, China. Seeds collected by J. F. Rock, Collaborator of the Bureau of Plant Industry.

"(No. 7935. February 20, 1923.) A shrub 5 to 6 feet high which grows on the summit of the extinct volcano, Lutsungshan, at an altitude of 9,050 feet, about 10 miles north of Tengyueh. The very narrow leaves are pale brown beneath, and the crimson flowers, which are not fragrant, are in terminal clusters. This is the first of all the rhododendrons to bloom, the flowers appearing in early February." (Rock.)

For previous introduction, see S. P. I. No. 56355.

56858 and 56859. TRITICUM AESTIVUM L. (T. vulgare Vill.) Poaceæ.

Common wheat.

From Magyarovar, Hungary. Seeds presented by J. Gyárfás, director, Hungarian Agricultural Experiment Station for Plant Research. Received April 13, 1923. Quoted notes by Mr. Gyárfás.

56858. "*Bankuti No. 5*. Hungarian selected wheat; one of the best varieties and excellent for baking."

56859. "*Bankuti Marquis No. 4*. Selected Marquis wheat grown in Hungary."

56860 and 56861. VICIA spp. Fabaceæ. Vetch.

From Omagari, Akita Ken, Japan. Seeds presented by Dr. Isabura Nagai, director, Riku-u substation, Agricultural Experiment Station. Received April 17, 1923. Quoted notes by Dr. Nagai except as otherwise stated.

56860. VICIA TETRASPERMA (L.) Moench.

"*Kasuma gusa*."

An annual vetch found throughout Europe except in the extreme north and south. The stems, usually smooth, climb to a maximum height of 20 inches. The leaflets are very narrow and small, and the flowers vary in color from bluish to lilac, with violet veins. (Adapted from Ascherson und Graebner, *Synopsis der Mitteleuropäischen Flora*, vol. 6, pt. 2, p. 912.)

56861. VICIA UNJUGA A. Br.

"*Nantenhagi*."

"An erect-growing plant which would appear to be valuable as a forage plant on wooded pasture ground in the cooler sections of the United States." (Frank N. Meyer.)

A perennial vetch, native to Siberia, with an upright or ascending stem 8 to 16 inches long and rather large, purplish flowers. It is sometimes cultivated in European gardens as an ornamental. (Adapted from Ascherson und Graebner, *Synopsis der Mitteleuropäischen Flora*, vol. 6, pt. 2, p. 919.)

56862 to 56867. ZEA MAYS L. Poaceæ. Corn.

From Krizevac, Croatia, Yugoslavia (Kingdom of the Serbs, Croats, and Slovenes). Seeds presented by the director, Royal Agricultural College, Krizevac, through J. F. McGurk, American consul, Zagreb. Received April 16, 1923. Quoted notes by the director.

56862 to 56865. "Grown at the college for many years."

56862. "*Krizevacka okrugla Hrvatica* (Croatian maid of Krizevac), a very good and fruitful sort, which ripens early and flourishes even in colder parts."

56863. "*Rumski zlatni zuban* (gold-kernel corn of Ruma, a town in Syrmia), a late very prolific kind. It does not always ripen with certainty in Krizevac, but in the lowlands along the Danube, Save, and Theiss Rivers, where the climate is somewhat like that of the steppes, with very hot summers, it ripens well."

56864. "*Krivacki hangari* (Krizevac warrior). An especially early kind, perhaps the earliest known. It originated in the Bosnian Mountains. It can be sown also in high mountain regions, and in upper Croatia it is sown after the field has been cleared of the winter barley, and ripens regularly."

56865. "*Krizevacki Pignoletto*, an early sort with tiny grains, very suitable and popular for human consumption. Has been grown a long time in Krizevac."

56866 and 56867. "Varieties raised by peasants."

56866. "*Krizevacki zuban* from the vicinity of Krizevac, a variety that ripens under conditions halfway between those mentioned in 1 [S. P. I. No. 56862] and 2 [S. P. I. No. 56863]."

56867. "*Hercegotacki* (the Herzegovian) from the mountains of Herzegovina, where the ground is stony, the winters severe, and the summers hot and dry, a climate which is very unfavorable for corn."

56868 and 56869. ACACIA spp. Mimosaceæ.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received April 19, 1923.

56868. ACACIA CARDIOPHYLLA A. Cunn.

"Weeping wattle. This native tree is one of the most beautiful wattles that I know of." (Baker.)

56869. ACACIA VERNICIFLUA A. Cunn.

A slender, much-branched shrub, with leathery, very narrow phyllodia (leaflike stems) about 2 inches in length, and deep-yellow flowers in small heads which are generally in pairs. It is native to the barren hills around Bathurst, New South Wales. (Adapted from *Curtis's Botanical Magazine*, pl. 3266.)

56870. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Helsingfors, Finland. Seeds purchased through Leslie A. Davis, American consul, from Keskusosuusliike Hankkija r. i. Received April 13, 1923.

"This strain has been cultivated in Finland for about 34 years." (Ernst Hasselblatt.)

Introduced for the use of department specialists engaged in clover breeding.

56871 and 56872. POPULUS TREMULA L. Salicaceæ. Aspen.

From Svalof, Sweden. Presented by N. H. Nilsson, Sveriges Utsädesforening. Received April 24, 1923.

Var. erecta.

"This is a mutation of the ordinary aspen and is found in the woods in this vicinity. Especially interesting is the fact that it strongly resembles the Lombardy poplar, which is a very similar mutation of *Populus nigra*." (Nilsson.)

56871. Plants. 56872. Cuttings.

56873 and 56874. ZEA MAYS L. Poaceæ. Corn.

From Bengazi, Cyrenaica, Libia, North Africa. Seeds presented by the director, Economic and Financial Affairs. Received April 25, 1923. Quoted notes by the director.

"These native varieties of maize are grown under irrigation in Cyrenaica. Attempts to grow them in dry culture have not resulted favorably."

56873. "From Derna."

56874. "From Bengazi."

56875. CERATONIA SILIQUA L. Cæsalpiniaceæ. Carob.

From Lisbon, Portugal. Budwood presented by Capt. Mendes d'Almeida, through W. Stanley Hollis, consul general. Received April 28, 1923.

Sent in response to a request for cuttings of the best varieties of carob grown in Portugal.

For previous introduction, see S. P. I. No. 55464.

56876 to 56878. TRITICUM AESTIVUM L. (T. vulgare Vill.) Poaceæ. Common wheat.

From Villiers Saint Georges, France. Seeds presented by Hector Gagneux. Received April 23, 1923. Quoted notes from catalog of Hector Gagneux, autumn, 1923.

56876 to 56878—Continued.

56876. "Blé de Silène. A variety with white straw, a long white head, and white kernels. It is a selection from *Hybride des Alliés*, to which it is superior in its resistance to disease and lodging."

56877. "Le Cérés. This is claimed by its originators to be the finest variety known; our experiments with it allow us to confirm in a measure this statement. It is remarkably vigorous with white heads and clear-yellow kernels which are much appreciated in the milling industry. The variety is very resistant to cold and almost never lodges. Season medium early."

56878. "Hybride Inéversible. An early and very vigorous variety which requires rich and well-prepared soil for its best development. It is very resistant to lodging."

56879. HAKEA ACICULARIS (Vent.) Knight. Proteaceæ.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received April 12, 1923.

A tall evergreen shrub or small bushy tree, native to Australia, with very handsome foliage which is rigid and spiny, thus serving to protect the plant against animals. The plant is suitable for hedges and shrubberies, is quite hardy, and requires but little moisture or cultivation. (Adapted from *University of California Publications, Botany*, vol. 4, p. 19.)

For previous introduction, see S. P. I. No. 40047.

56880 to 56882. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Bologna, Italy. Seeds purchased from Ditta E. Pini, through Asher Hobson, American representative, International Institute of Agriculture, Rome. Received April 20, 1923. Quoted notes by Mr. Pini.

Locally grown seed introduced for department specialists engaged in clover breeding.

56880. "From Emilia."

56881. "From Marches."

56882. "From Umbria."

56883 to 56891. COIX LACRYMA-JOBI MA-YUEN (Rom.) Stapf. Poaceæ. Ma-yuen.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture, at the request of P. J. Wester. Received April 23, 1923.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, Bureau of Agriculture, Manila, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

56883. *Batangas*.

56884. *Cotabato Brown*.

56885. *Cotabato White*.

56886. *La Union White*.

56887. *Lamao No. 1*.

56888. *Lamao No. 2*.

56889. *Lamao White*.

56890. *Momungan*.

56891. *Mountain Province*.



FIG. 1.—HABITAT OF THE WILD PINEAPPLE (*ANANAS* SP.; S. P. I. Nos. 56851 AND 56852)

The origin of the cultivated pineapple is obscure. The Spaniards found it growing in the gardens of the Indians when they reached tropical America at the end of the fifteenth century. It seems probable that the cultivated varieties were derived from one or more of the wild forms which are still found in the central part of Brazil. The environmental conditions under which one of these forms occurs is shown in the above reproduction of a photograph taken by Professor Rolfs near Vicosa, in the State of Minas Geraes, at an altitude of about 650 meters (approximately 2,130 feet)



FIG. 2.—A WILD PINEAPPLE FROM CENTRAL BRAZIL (*ANANAS* SP.; S. P. I. Nos. 56851 AND 56852)

Plant breeders occupied with the production of new pineapple varieties will be interested in this wild form sent from the State of Minas Geraes by Professor Rolfs. The fruits, which are about 6 inches long and 4 inches in diameter, are whitish green, dull green, or nearly red; they have whitish flesh of acid flavor. It seems possible that this form may be the wild prototype of some of the cultivated pineapples; it occurs abundantly on the rolling plains of central Brazil. (Photographed by P. H. Rolfs, Vicosa, Minas Geraes, Brazil)



FIG. 1.—BARLEY GROWING IN AN ALGERIAN OASIS (*HORDEUM VULGARE PALLIDUM* SERINGE; S. P. I. NO. 57052)

In the endeavor to secure new cereal strains for use in improving varieties now being cultivated in the United States, the United States Department of Agriculture recently sent abroad an experienced cerealist to look for promising types. Among the places visited were a number of the larger oases in northern Africa. The illustration shows a plot of barley, probably a winter variety, growing in the oasis of Temacin, Algeria. Seeds of this variety were obtained for testing in the warmer portions of the semiarid Southwest. (Photographed by H. V. Harlan, April 5, 1923)



FIG. 2.—MARIOUT BARLEY IN ITS ORIGINAL HOME (*HORDEUM VULGARE PALLIDUM* SERINGE; S. P. I. NOS. 57637 TO 57639)

The semiarid region in the vicinity of Lake Mariut, northern Egypt, has the distinction of being the home of the original Mariout barley, from which many selections have been made. This region probably has the lowest rainfall of any in the world in which crops are grown, and seed was secured here of a number of promising barley types which may prove of great value in sections of the United States where drought resistance in cereals is essential. (Photographed by H. V. Harlan, Burg el Arab, Egypt, May 7, 1923)

56892. AVENA SATIVA L. Poaceæ.

Oats.

From Wageningen, Netherlands. Seeds presented by Dr. R. J. Mansholt, Royal Netherlands College of Agriculture. Received May 1, 1923.

Mansholt III. A variety obtained by selection from *Victoire de Svalof*. Its chief characteristics are straw fairly short, very thick, stiff; grain white and plump like that of *Victoire de Svalof*, but distinctly larger; season early. It is an excellent variety, very resistant to lodging. It should not be grown on poor, light soils, as it requires rich, well-fertilized land. (Adapted from *International Review of the Science and Practice of Agriculture*, Monthly Bulletin of Agricultural Intelligence, vol. 13, p. 331.)

56893 to 56895. TRIFOLIUM INCARNATUM L. Fabaceæ. Crimson clover.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received May 1, 1923. Quoted notes by Vilmorin-Andrieux & Co.

Introduced for department specialists engaged in clover breeding.

56893. "A late crimson clover."

56894. "An early crimson clover."

56895. "A very late white-flowered crimson clover."

56896 to 56898. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Lausanne, Switzerland. Seeds purchased from Dr. G. Martinet, director, Seed-Control Station. Received May 1, 1923. Quoted notes by Doctor Martinet.

Introduced for department specialists engaged in clover breeding.

56896. "No. 1021. Descended from the celebrated variety of Winkel, near Bulach, Switzerland. It is of rapid growth, yields heavily, and can be used for two years after seeding."

56897. "No. 943 (*Mattenklee*). A long-enduring variety which yields well and renews itself from time to time. The seeds are almost entirely yellow."

56898. "No. 950 (*Mattenklee*). A long-enduring variety which gives abundant forage and seeds; the latter are dark violet."

56899 to 56901.

From Svalof, Sweden. Seeds presented by N. H. Nilsson, Sveriges Utsädesforening. Received May 1, 1923.

56899 and 56900. AVENA SATIVA L. Poaceæ.
Oats.

56899. *Orion*. An early-ripening black oat obtained at Svalof, Sweden, by crossing *Ligowo* and *0663*, a line from a Norwegian variety. *Orion* ripens two days earlier than the earliest variety known in Norrland and is distinctly superior to the variety *Guldregn*. In regard to yield, *Orion* has produced 5.5 per cent more grain and 7.5 per cent more straw than *Mesdag*. In short, *Orion* is very satisfactory because it produces a heavy crop of grain of good quality, ripens early, and has stiff straw. (Adapted from *International Review of the Science and Practice of Agriculture*, Monthly Bulletin of Agricultural Intelligence, vol. 13, p. 667.)

56899 to 56901—Continued.

56900. *Odal*. In the attempt to obtain an early variety of oats with the good qualities of the late variety *Guldregn*, a cross between the latter variety and *Dala* yielded a strain, *01163 b*, in which the desired characters were obtained. *Odal* does not head early, but ripens quickly. In regard to yield, *Odal* produces on an average 9 per cent more grain than *Dala*, but, owing to the shortness of the stems, gives less straw than either *Dala* or *Guldregn*. In its resistance to lodging, *Odal* is nearly equal to *Guldregn*. (Adapted from *International Review of the Science and Practice of Agriculture*, Monthly Bulletin of Agricultural Intelligence, vol. 13, p. 321.)

56901. PHELEUM PRATENSE L. Poaceæ. Timothy.

Gloria. A high-yielding strain, developed at Svalof by Dr. Hernfried Witte.

56902 to 56904. ZEA MAYS L. Poaceæ. Corn.

From Peru. Seeds presented by D. S. Bullock, agricultural commissioner, Bureau of Agricultural Economics. Received April 20, 1923. Quoted notes by Mr. Bullock.

56902. "(Cuzco. January, 1923.) From Sr. Gallegos, Comisionado Agronómico."

56903. "(Cuzco. January, 1923.) From T. E. Payne. Grown under irrigation at about 7,000 feet altitude."

56904. "(Same.) From Sr. Mendoza. Grown at a low altitude under irrigation."

56905. ZEA MAYS L. Poaceæ. Corn.

From La Paz, Bolivia. Seeds presented by D. S. Bullock, agricultural commissioner, Bureau of Agricultural Economics. Received April 20, 1923.

"(January, 1923.) Bought in the market." (*Bullock*.)

56906. PHYLLOCARPUS SEPTENTRIONALIS Donn.-Smith. Cæsalpiniaceæ.

From El Barranquillo, Guatemala. Seeds purchased from Fernando Carrera through A. C. Frost, American consul, Guatemala. Received May 3, 1923.

"A magnificent flowering tree found in sandy loam in eastern Guatemala at 1,500 to 2,000 feet altitude. It is of broad, spreading habit, 40 to 50 feet high, with light-green compound leaves. In January and February the tree is a mass of crimson-scarlet flowers, each about an inch broad, borne in small clusters." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 51409.

56907. ANANAS sp. Bromeliaceæ.
Wild pineapple.

From Bello Horizonte, Minas Geraes, Brazil. Seeds presented by P. H. Rolfs, director, Escola Superior de Agricultura e Veterinaria. Received May 5, 1923.

"A wild pineapple known locally as 'ananás.' The fruit is more cylindrical than that of *Red Spanish*." (*Rolfs*.)

Introduced for department specialists engaged in pineapple breeding.

56908 and 56909.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received May 5, 1923.

56908. *ABUTILON MOLLISSIMUM* (Cav.) Sweet. Malvaceæ.

An annual bushy plant, usually 4 to 5 feet high, but reported to reach a height of 10 feet in Peru, where it is native. The stem and the large, very soft, heart-shaped leaves are quite hairy, and the solitary axillary flowers, about an inch long, are sulphur yellow. (Adapted from *Cavanilles, Secunda Dissertatio Botanica*, p. 49, No. 67.)

56909. *FRANCOA SONCHIFOLIA* (Willd.) Cav. Saxifragaceæ.

A rather shrubby ornamental about 3 feet high, with bright-green, downy, wavy-margined leaves, handsome lilac-colored flowers in long, erect, spike-like racemes. The plant is native to Chile. (Adapted from *Curtis's Botanical Magazine*, pl. 3309.)

56910. *POA AUSTRALIS* R. Br. Poaceæ.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received June 6, 1923.

"Collected near Lake Tiberias at an altitude of about 1,400 feet. This is a rather cold area with a light rainfall." (Evans.)

This is the most abundant grass in many districts of South Island, New Zealand, and is also plentiful in the elevated central portions of North Island. It is seldom eaten by stock, however, except in the absence of better feed. (Adapted from *Cheeseman, Manual of the New Zealand Flora*, p. 908.)

Introduced for department agrostologists.

For previous introduction, see S. P. I. No. 31503.

56911. *COLOCASIA ESCULENTA* (L.) Schott. Araceæ. Dasheen.

From Canton, China. Tubers presented by G. Weidman Groff, director, Canton Christian College. Received May 7, 1923.

"A taro, or dasheen, of good quality. The sprouts are distinctly reddish. The tubers are said to be small and quite uniformly elliptical and the leaves dark green. The variety is also reported to yield well." (R. A. Young.)

56912 to 56919. *SOLANUM TUBEROSUM* L. Solanaceæ. Potato.

From Nemecky Broad, Czechoslovakia. Tubers presented by the Czechoslovakia Experiment Station for Potato Culture. Received May 14, 1923.

"These Czechoslovakian varieties came from the Czechoslovakia Experiment Station for Potato Culture, where they were grown under careful supervision and are claimed to be free from disease. They are introduced for breeding and disease-resistance investigations." (Dr. E. H. Myers.)

56912. *Cesky zelenac*.

56913. *Fakutske*.

56914. *Janovsky*.

56915. *Nolcovy rohlicky*.

56916. *Podhajky*.

56917. *Ranne Hradce*.

56918. *Vaclavaka*.

56919. *Visnovske rohlicky*.

56920 to 57012. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceæ. Sweetpotato.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received May 2, 1923. Quoted notes by Mr. Thompson.

56920. "No. 7. A Big Wig seedling. The vine is 3 to 4 feet in length. It is very leafy and covers the ground completely with a dense leafy mass. The leaves are green, broadly shouldered, and lanceolate. The roots are red."

For introduction of tubers under this number, see S. P. I. No. 56714.

56921. "No. 11. A Big Wig seedling. The vines are 2 to 3 feet in length. The leaves are lanceolate and range from small to medium in size. The roots are white."

56922 to 56928. "No. 18. A Big Wig seedling. This is a rampant grower, the vines reaching out for 8 or 10 feet or more on either side of the row. It flowers profusely. The roots are red."

For introduction of tubers under this number, see S. P. I. No. 56717.

56922. (No. 1.) 56926. (No. 5.)

56923. (No. 2.) 56927. (No. 6.)

56924. (No. 3.) 56928. (No. 7.)

56925. (No. 4.)

56929 to 56931. "No. 26. A Big Wig seedling. In the nursery row this seedling shows short vine growth with rather sparse foliage. The stems are short and stout, attaining a maximum length of 2 to 3 feet. The leaves are lanceolate with a wine-colored midrib. The tubers are dark red and grow at the ends of fleshy roots that are 12 to 18 inches long. The tubers are traversed by a number of pronounced ribs or veins. The original seedling yielded 4 pounds of tubers under very adverse conditions."

For introduction of tubers under this number, see S. P. I. No. 56722.

56929. (No. 1.) 56931. (No. 3.)

56930. (No. 2.)

56932 and 56933. "No. 36. A Big Wig seedling. Stems rather slender to medium and 2 to 4 feet in length. Leaves small and cordate. The original seedling plant produced 1 pound 6 ounces of smooth white tubers."

56932. (No. 1.) 56933. (No. 2.)

56934 and 56935. "No. 31. A Big Wig seedling. In the nursery row the vines are strong but short and sparsely leaved. The leaves are small with five deeply cut lobes. This variety shows a tendency to produce tubers at the nodes of the vines where they attach themselves to the soil. The tubers are a light red or rose. The original seedling yielded 38 tubers weighing $5\frac{1}{4}$ pounds."

For introduction of tubers under this number, see S. P. I. No. 56726.

56934. (No. 1.) 56935. (No. 2.)

56936 to 56940. "No. 36."

For description, see S. P. I. Nos. 56932 and 56933.

56936. (No. 3.) 56939. (No. 6.)

56937. (No. 4.) 56940. (No. 7.)

56938. (No. 5.)

56920 to 57012—Continued.

56941. "No. 45. A Big Wig seedling. In the nursery row this bore short leafy stems 24 to 30 inches long which afforded perfect protection to the hill. The leaves are dark green and cut and lobed similar to those of the Big Wig parent. The original seedling plant yielded eight small tubers weighing 15 ounces. The tubers are dark red. The flesh is yellow with a pink underskin."

56942. "No. 50. A Black Rock seedling. In the nursery row this seedling had short stems 12 to 18 inches long. The leaves are deeply cut with five lobes and are dark green with red midribs and veins. The tubers are dark red."

56943 and 56944. "No. 55. A Black Rock seedling. The stems are 2 to 3 feet long in our nursery row. The leaves are somewhat variable in form but usually lanceolate and bearing some resemblance to those of the variety grown at this station under the name of the Key West 'yam.' The tubers are dark red and are borne on the ends of long fleshy roots. The original seedling plant yielded 30 tubers weighing a total of 4½ pounds."

For introduction of tubers under this number, see S. P. I. No. 56729.

56943. (No. 1.) 56944. (No. 2.)

56945. "No. 58. A Black Rock seedling. The vine is 2 to 3 feet in length and very leafy. The leaves are cordate and rounded and the younger ones are wine colored, especially around the margins. The tubers are dark red. The original seedling plant bore 37 tubers weighing 5 pounds."

For introduction of tubers under this number, see S. P. I. No. 56731.

56946. "No. 74. A Big Wig seedling. Stems slender, leafy, 3 to 5 feet long or more. The leaves are small and have five lobes. The roots are red."

56947. "No. 75. A Big Wig seedling. Vines 2 to 4 feet in length and leafy. Leaves dark green, broad, 3 pointed; midribs and veins red. Tubers red. The original seedling plant yielded 18 tubers weighing 2½ pounds."

56948 to 56951. "No. 92. A Big Wig seedling. Vines long and slender. Leaves small, broad as compared with length, lobed but not deeply cut. The yield of the original seedling plant was 19 tubers weighing 1 pound. The tubers were small, red, and borne at the nodes as far as 10 feet from the hill."

56948. (No. 1.) 56950. (No. 3.)

56949. (No. 2.) 56951. (No. 4.)

56952. "No. 103. A Big Wig seedling. A small, bunching, rather unthrifty vine. The roots are of a light red or rose."

56953 to 56955. "No. 106. A Big Wig seedling. The vines are from 1 to 3 feet long and sparsely clothed with small green lanceolate leaves. The original seedling hill yielded three tubers weighing 10 ounces. The tubers were dark red."

56953. (No. 1.) 56955. (No. 3.)

56954. (No. 2.)

56956. "No. 112. A Big Wig seedling. Vines 1 to 3 feet in length and rather sparsely leaved. Leaves small, light green with three or five lobes and green midribs and veins. The original seedling plant bore three light-red tubers weighing 6 ounces."

56920 to 57012—Continued.

56957. "No. 122. A Big Wig seedling. Vines 12 to 30 inches in length. This was like the preceding, No. 112 [S. P. I. No. 56956], in that it yielded from the original seedling plant three small red tubers weighing 6 ounces."

56958. "No. 123. A Big Wig seedling. This forms bunching plants with leafy stems 12 to 18 inches long. The original seedling plant bore three light-red tubers weighing 13 ounces."

56959. "No. 125. A Big Wig seedling. The plant is rather bunching in habit. The stems are 1 to 2 feet long and leafy. Leaves dark green, cordate, resembling its Black Rock parent. The original seedling plant bore seven dark-red tubers weighing 1 pound 9 ounces."

56960 to 56963. "No. 138. A Big Wig seedling. The stems are long and leafy. The leaves are dark green and 5 lobed."

56960. (No. 1.) 56962. (No. 3.)

56961. (No. 2.) 56963. (No. 4.)

56964 to 56966. "No. 153. A Big Wig seedling. The vines were from 3 to 6 feet in length with sparse growth of leaves. The leaves were lanceolate or sometimes 3 lobed. The original seedling plant yielded 10 dark-red tubers with a total weight of 1½ pounds."

56964. (No. 1.) 56966. (No. 3.)

56965. (No. 2.)

56967. "No. 162. A Big Wig seedling. The stems are stout and 1 to 2 feet in length. The leaves are large, cordate, and strikingly ornamental. The original seedling plant yielded five tubers of a coppery red, having a total weight of 1½ pounds."

56968 to 56970. "No. 169. A Black Rock seedling. Vines in the nursery row grew to a maximum distance of 6 feet from the hill and were sparsely covered with leaves. Leaves dark green when mature, but immature ones were dark wine colored. Tubers a light yellowish pink. The original seedling plant yielded four tubers weighing 3 ounces."

56968. (No. 1.) 56970. (No. 3.)

56969. (No. 2.)

56971. "No. 188. A Black Rock seedling. The stems are long and slender and in the nursery row run to a maximum distance of 8 feet from the hill. The vine is not densely covered with leaves and makes a thin covering for the ground. The tubers are light red. The original seedling plant yielded 14 tubers weighing a total of 2 pounds 2 ounces."

56972. "No. 191. A Black Rock seedling. A low bunching leafy plant. Leaves deeply cut, with five lobes."

56973 and 56974. "No. 196. A Black Rock seedling. Stems 12 to 30 inches long, with few leaves. Leaves small, cordate, pointed."

56973. (No. 1.) 56974. (No. 2.)

56975 and 56976. "No. 204. A Black Rock seedling. Stems long and slender, 8 or 10 feet long. Leaves comparatively small in size, 3 pointed, lanceolate. The original seedling had dark-red roots but no tubers."

56975. (No. 1.) 56976. (No. 2.)

56920 to 57012—Continued.

56977 to 56990. "No. 217. A Black Rock seedling. The stems are long and slender, attaining a length of 8 to 10 feet or more. The original seedling yielded 24 tubers weighing an aggregate of 3 pounds. The tubers have creamy yellow skin and yellow flesh."

56977. (No. 1.) 56979. (No. 3.)

56978. (No. 2.) 56980. (No. 4.)

56981 and 56982. "No. 223. A Key West 'yam' seedling. Tubers dark red. The original seedling plant yielded 12 tubers weighing 1 pound 13 ounces."

56981. (No. 1.) 56982. (No. 2.)

56983 to 56985. "No. 226. A Key West 'yam' seedling grown at the Virgin Islands Experiment Station in 1922. The original seedling plant had yellow roots but no tubers."

56983. (No. 1.) 56985. (No. 3.)

56984. (No. 2.)

56986 to 56988. "No. 235. A Black Rock seedling. Original seedling plant had dark-red roots but no tubers."

56986. (No. 1.) 56988. (No. 3.)

56987. (No. 2.)

56989 and 56990. "No. 240. A Black Rock seedling. The original seedling plant yielded 26 smooth coppery red tubers with a total weight of 5½ pounds."

For introduction of tubers under this number, see S. P. I. No. 56742.

56989. (No. 1.) 56990. (No. 2.)

56991 to 56993. "No. 247. A Black Rock seedling. The original seedling plant bore six white tubers weighing 1 pound 2 ounces."

56991. (No. 1.) 56993. (No. 3.)

56992. (No. 2.)

56994. "No. 251. A Black Rock seedling. The original seedling plant produced 14 yellow tubers weighing 1 pound 11 ounces."

For introduction of tubers under this number, see S. P. I. No. 56743.

56995. "No. 306. A Black Rock seedling. This is a volunteer seedling which sprang up in the Black Rock plot after the latter was harvested."

56996 and 56997. "Big Wig variety. It is not known whence this variety came. It was obtained by the station from Estate Strawberry Hill in 1920 or 1921 and has since been grown continuously at the station. It is of bunching vineless growth and bears many dark-green deeply cut 5-lobed leaves. The original form as obtained by the station has red tubers. The seed collected has all been from the ordinary red Big Wig."

56996. (No. 1.) 56997. (No. 2.)

56998 to 57000. "Black Rock variety. This was introduced from Barbados by Dr. Longfield Smith, of this station, in 1911 and is undoubtedly the most popular variety grown in St. Croix. The vines are vigorous, bearing dark-green, cordate leaves. The tubers, which are long and often ill shaped, are dark purplish red and attain large size under favorable conditions. The variety has the reputation of keeping longer in storage than other varieties."

56998. (No. 1.) 57000. (No. 3.)

56999. (No. 2.)

56920 to 57012—Continued.

57001 and 57002. "Hug-me-tight variety. A few tubers of this variety were purchased on the St. Thomas market in May, 1922, under the above name. The tubers were said to have been grown on the island of Tortola, a British island some miles off the east coast of St. Thomas. The tubers are white."

57001. (No. 1.) 57002. (No. 2.)

57003 and 57004. "John Siddon variety. A few tubers of this variety were obtained at the same time and came from the same source as those of Hug-me-tight [S. P. I. Nos. 57001 and 57002]. The tubers are light red."

57003. (No. 1.) 57004. (No. 2.)

57005 to 57010. "Key West 'yam.' This variety was obtained from the Federal Experiment Station at Mayaguez, Porto Rico, and planted at the Virgin Islands Experiment Station some two or three years ago. After growing this variety in a number of comparative tests, in which a large number of local varieties were represented, the Porto Rico Experiment Station pronounced this the best variety tested under the conditions at Mayaguez. It has shown considerable merit in St. Croix, but has not fully established its superiority over the Black Rock and Big Wig varieties. The vines are medium in length, and the leaves are of a very noticeably yellow-green. The tubers are yellow."

57005. (No. 1.) 57008. (No. 4.)

57006. (No. 2.) 57009. (No. 5.)

57007. (No. 3.) 57010. (No. 6.)

57011 and 57012. "Wrenchy variety. This is an old local variety the history of which is not known. The vines are long and slender and the tubers are white. This variety is said to yield comparatively well on hard or poorly plowed land."

57011. (No. 1.) 57012. (No. 2.)

57013 to 57034. HORDEUM spp. Poaceæ. Barley.

From Cambridge, England. Seeds presented by Prof. F. L. Engledon, School of Agriculture, Cambridge, through Dr. H. V. Harlan, United States Department of Agriculture. Received April 24, 1923.

A collection of local barley strains introduced for department cerealsists.

57013 and 57014. HORDEUM DEFICIENS Steud.

57013. No. 1. 57014. No. 6.

57015. HORDEUM DISTICHON NIGRICANS Seringe. Two-rowed barley. No. 13.

57016. HORDEUM DISTICHON NUDUM L. Two-rowed barley. No. 8.

57017 to 57022. HORDEUM DISTICHON PALMELLA Harlan. Two-rowed barley.

57017. No. 4. 57020. No. 14.

57018. No. 9. 57021. No. 16.

57019. No. 10. 57022. No. 19.

57023. HORDEUM INTERMEDIUM HAXTONI Koern.

No. 7

57013 to 57034—Continued.

57024. *HORDEUM VULGARE CELESTE* L.
Six-rowed barley.
No. 22.

57025 and 57026. *HORDEUM VULGARE HORSFORDIANUM* Wittmack. Six-rowed barley.

57025. No. 3. 57026. No. 5.

57027 and 57028. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.

57027. No. 12. 57028. No. 17.

57029 to 57034. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

57029. No. 2. 57032. No. 18.

57030. No. 11. 57033. No. 20.

57031. No. 15. 57034. No. 21.

57035. *TRIFOLIUM PHYSODES* Stev. Fabaceæ. Clover.

From Kew, England. Seeds presented by Dr. A. H. Hill, director, Royal Botanic Gardens. Received May 7, 1923.

A perennial prostrate clover with oval leaflets and roundish heads of pink flowers which open in July and August. Native to southeastern Europe. In the flowering stage this species resembles white clover, but it does not creep. (Adapted from *Ascheron und Graebner, Synopsis der Mitteleuropäischen Flora*, vol. 6, pt. 2, p. 525.)

For previous introduction, see S. P. I. No. 56675.

57036. *TRIFOLIUM PRATENSE* L. Fa- baceæ. Red clover.

From Copenhagen, Denmark. Seeds presented by H. N. Knudsen, Danish Royal Agricultural Society. Received May 7, 1923.

Tystofte No. 40 originated in a 2-year plot of Rozen-daal clover. Seed of this variety was sown in 1900, and the clover was thus subjected to the hard winter of 1901. In 1902 the strongest plants from this test were selected, one of which was No. 40. Later this strain was compared with others in several tests. In three of four tests all the clovers made vigorous growth during the first year, and in this respect No. 40 averaged well above the others. In all four tests No. 40 gave the largest crop, fully 20 per cent better than that of the next best. These results agree well with the results of earlier tests at Lyngby and Tystofte, in which this strain decidedly surpassed all others. (Adapted from *Beretning fra Statens Forsøgsvirksomhed i Plantekultur*, No. 96, p. 401.)

For previous introduction, see S. P. I. No. 54739.

57037 to 57041. *ORYZA SATIVA* L. Poa- cææ. Rice.

From the island of Guam. Seeds presented by J. Guerrero, assistant in horticulture, Guam Agricultural Experiment Station. Received May 7, 1923.

Varieties of seed rice introduced for department specialists engaged in rice breeding.

57037. *Guam*.

57038. *Guam Experiment Station Selection*.

57039. *Inantipolo II*.

57040. *Mangasa*.

57041. *Mayoro II*.

57042 to 57074.

From Algeria. Seeds collected by Dr. H. V. Harlan, Bureau of Plant Industry. Received May 9, 1923. Quoted notes by Doctor Harlan.

Introduced for department cerealists.

57042. *AVENA LUDOVICIANA* Durieu. Poa-
cææ. Oats.

"(No. 52. Biskra. April 8, 1923.) Wild oats collected in barley fields. No oats are cultivated near Biskra."

57043. *AVENA STERILIS* L. Poaceæ. Oats.

"(No. 60. Algiers. April 21, 1923.) The only sample of oats seen in the native market. It appears to be screenings from other grain."

57044 and 57045. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.) Poaceæ.

Sorghum.

57044. "(No. 57. Algiers. April 21, 1923.) Purchased in the native market."

57045. "(No. 62. Algiers. April 21, 1923.) A poor sample collected in the native market."

57046 to 57065. *HORDEUM* spp. Poaceæ.
Six-rowed barley.

57046. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven.

"(No. 53. Biskra. April, 1923.) A black barley from Biskra. The Arabs tell me that before the big famine of 20 years ago when seed was imported black barley was often grown. The few seeds under this number were found by picking over many samples in the market. They may be from widely separated points."

57047 to 57065. *HORDEUM VULGARE PALLIDUM* Seringe.

57047. "(No. 30. Tuggurt. April 3, 1923.) Purchased in the market. Probably grown on this or a nearby oasis."

57048. "(No. 33. Tuggurt. April 5, 1923.) Barley from the Oasis of Tuggurt, purchased in the market."

57049. "(No. 35. Tuggurt. April 5, 1923.) Barley from the Oasis of Tuggurt, purchased in the market."

57050. "(No. 36. Biskra. March 31, 1923.) The barley was grown under irrigation. The spikes collected represented variation present in the field. Few spikes were taken, as they were not fully ripe and a larger sample might be damaged by heating."

57051. "(No. 37. El Outaia. April 1, 1923.) Conditions similar to No. 36 [S. P. I. No. 57050] and similar selections made."

57052. "(No. 38. Temacin. April 5, 1923.) The barley at Temacin was grown beneath the date palms of the oasis. This may be a winter variety or at least one related to those of Lower Egypt."

For an illustration of this barley, see Plate II, Figure 1.

57042 to 57074—Continued.

57053. "(No. 39. Temacin. April 5, 1923.) Collected from a small plat under date palms; a fairly pure variety of the Peruvian or Portuguese type not seen at Biskra."
57054. "(No. 40. Biskra. May 8 and 13, 1923.) Barley spikes collected from fields about the town. Several types are included."
57055. "(No. 42. Biskra. April 13, 1923.) Barley of the new crop purchased in the market at Biskra."
57056. "(No. 43. El Kantara. April 10, 1923.) Purchased in the market at El Kantara. The 1922 crop is probably from Batna or Setif."
57057. "(No. 46. Biskra. April 13, 1923.) Barley purchased in the market. Said to have been grown at Soada, 20 miles southeast of Biskra. From the 1923 crop."
57058. "(No. 47. Biskra. April 13, 1923.) New crop from Soada, 20 miles southeast of Biskra."
57059. "(No. 48. Biskra. April 13, 1923.) Purchased in the market place. The dealer claimed the shipment came from Morocco."
57060. "(No. 50. El Outaia. April 13, 1923.) Barley of the 1923 harvest purchased in Biskra. Grown at El Outaia."
57061. "(No. 51. Biskra. April 13, 1923.) Barley of the 1923 harvest purchased in the market."
57062. "(No. 55. Setif. April 20, 1923.) Barley of the 1922 crop obtained from the grower."
57063. "(No. 58. Algiers. April 21, 1923.) Barley purchased in the native market."
57064. "(No. 59. Algiers. April 21, 1923.) Barley purchased in the native market."
57065. "(No. 61. Algiers. April 21, 1923.) Barley purchased in the native market. Appears to be a mixture of 2-rowed and 6-rowed barleys. Probably imported."
- 57066 to 57072. *TRITICUM* spp. Poaceæ.

57066 to 57071. *TRITICUM DURUM* Desf.
Durum wheat.

57066. "(No. 31. Tuggurt. April 3, 1923.) Wheat from the Oasis of Tuggurt. Purchased in the market. All wheat here is of the durum type, probably because of its wide use in the manufacture of kushos."
57067. "(No. 34. Tuggurt. April 5, 1923.) The sample of wheat was the best quality seen in the market."
57068. "(No. 41. Ghouff. April, 1923.) Wheat with a little barley secured by Capt. M. W. Hilton-Simpson from the Rossira Valley, Aures Mountains. It may be an old variety long established there. This is a remote locality, and Roman ruins are common."

57042 to 57074—Continued.

57069. "(No. 45. El Kantara. April 10, 1923.) Purchased at El Kantara, probably originally from Batna. 1922 crop."
57070. "(No. 49. Biskra. April 13, 1923.) Wheat from a native mill. Source not known, but probably from the plateau."
57071. "(No. 56. Setif. April 20, 1923.) Wheat of the 1922 crop obtained from the grower."
57072. *TRITICUM VENTRICOSUM* (Tausch)
Ces. Pass. and Gib.
"(No. 54. Biskra. April, 1923.) The seeds under this number were obtained by picking over samples of barley for sale in the Biskra market."
- 57073 and 57074. *ZEА MAYS* L. Poaceæ.
Corn.
57073. "(No. 32. Tuggurt. April 5, 1923.) The seed of this sample shelled from a single ear purchased in the market. No other type of corn was on sale here."
57074. "(No. 44. Biskra. April 13, 1923.) Purchased in the market. Grown at Mgous, where, according to the Arabs, more corn than wheat or barley is grown."

57075 and 57076. *DIOSPYROS KAKI* L. f.
Diospyraceæ. Kaki.

From Weihsien, Shantung, China. Scions presented by Rev. J. A. Fitch, American Presbyterian Mission. Received May 22, 1923. Quoted notes by Mr. Fitch.

"These are reported to be nonastringent."

57075. "*Tie shi dze* (iron kaki)."

57076. "*Toa shi dze* (palm-of-the-hand kaki)."

57077. *LYCOPERSICON ESCULENTUM*
Mill. Solanaceæ. Tomato.

From St. Vincent, British West Indies. Seeds presented by T. Jackson, agricultural superintendent, Botanic Gardens. Received May 19, 1923.

"A small native variety said to be immune to point-rot." (Jackson.)

57078. *SABINEA CARINALIS* Griseb.
Fabaceæ.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, Botanic Gardens. Received May 21, 1923.

This tree is known locally as *bois charibe* and is one of the most showy of our native plants. It is a very fine flowering tree, and I have seen nothing in the Tropics to surpass it as a mass of color. If grown on fairly good land it will not make a good show, but if planted on a dry, rocky hillside where it will be scorched by the sun for a period of three or four months each year it makes a marvelous display of flowers." (Jones.)

A shrub or small tree with featherlike leaves and large scarlet flowers which are borne in clusters of three to five, appearing before the leaves. (Adapted from Grisebach, *Flora of the British West Indies*, p. 183.)

57079. AGATI GRANDIFLORA (L.) Desv.
(*Sesbania grandiflora* Poir.) Fabaceæ.

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, department of botany and forestry, experiment station of the Sugar Planters' Association. Received May 22, 1923.

A small, rapid-growing, soft-wooded tree 15 to 20 feet in height, with pinnate leaves and large pendulous white flowers, followed by long sickle-shaped pods. The fleshy petals are used in curries and soups in the Indian Archipelago, where this tree is native. The leaves and young shoots are sometimes used as fodder. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 6, pt. 2, p. 544.)

For previous introduction, see S. P. I. No. 54928.

57080. JUNIPERUS CEDRUS Webb. Pinaceæ. Juniper.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received May 22, 1923.

A Canary Island relative of the common juniper, differing only in minor botanical characters and also in being less hardy. Dr. Georges Perez, of Orotava, Canary Islands, reports trees of this species with trunks a yard or more in diameter. The leaves are uniformly awl shaped and in whorls of threes. The wood is very pleasantly perfumed. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 669.)

57081 to 57088.

From Ichang, China. Seeds presented by Albert S. Cooper, American Church Mission. Received May 22, 1923. Quoted notes by Mr. Cooper except as otherwise stated.

"Collected on the mountains back of Patung, Hupeh, at altitudes of 6,000 to 8,000 feet."

57081. *BERBERIS* sp. Berberidaceæ. **Barberry.**

57082. *CELASTRUS* sp. Celastraceæ.

57083. *COTONEASTER* sp. Malaceæ.

"An evergreen growing prostrate on rocky surfaces."

57084. *DELPHINIUM* sp. Ranunculaceæ. **Larkspur.**

57085. *ILEX* sp.

"A small-leaved holly."

57086. *ILEX* sp.

"This bore an especially abundant lot of berries."

57087. *PRINSEPIA SINENSIS* Oliver. Amygdalaceæ.

"*Prinsepia sinensis* is a species which has been comparatively unknown to horticulturists until recent times. It is quite distinct from *P. utilis*, which yields a cooking oil common in India, but is closely similar to *P. uniflora*, which has been introduced by this office several times. Like *P. uniflora*, it is a Chinese ornamental shrub with gray or whitish bark and small gray spines. But while *P. uniflora* has white flowers, dark-purple fruits, and thick linear-lanceolate leaves, *P. sinensis* is distinguished by yellow flowers, deep-red fruits, and thin ovate-lanceolate leaves. The shrub is said to be somewhat harder than *P. uniflora*. The plant is of striking habit, and the clusters of large bright-yellow flowers must make it a brilliant sight on its native Mongolian hills from Mukden to the Yaboo. It is early blooming, but at the Arnold Arboretum it bears only a few fruits." (D. C. Peattie.)

For previous introduction, see S. P. I. No. 55711.

57081 to 57088—Continued.

57088. *THEA SASANQUA* (Thunb.) Nois. (*Camellia sasanqua* Thunb.) Theaceæ.

A large, wide-spreading ornamental shrub or small tree common throughout the warmer parts of Japan. The branches are very slender, and in the wild plant the flowers are always white. It is a popular garden shrub; and, under cultivation, forms with pink and rose-colored flowers are common. The seeds contain an inferior sort of oil used by the Japanese women for dressing their hair. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 2, p. 394.)

For previous introduction, see S. P. I. No. 50646.

57089 to 57091.

From Hankow, China. Seeds presented by Rev. William Ruhl, Minhsien, Kansu, through P. S. Heintzleman, consul general. Received May 23, 1923. Quoted notes by Mr. Heintzleman.

57089. *HORDEUM VULGARE COELESTE L.* Poaceæ. **Barley.**

"This is planted about the middle of April and harvested the first week in August."

57090. *PISUM SATIVUM L.* Fabaceæ. **Pea.**

"These are planted about the end of April and harvested the latter part of September."

57091. *VICIA FABA L.* Fabaceæ. **Broad bean.**

"These are planted about the end of April and harvested the latter part of September."

57092. TRIPLARIS CUMINGIANA Fisch. and Mey. Polygonaceæ.

From Balboa Heights, Canal Zone. Seeds presented by Holger Johansen, agronomist. Received May 24, 1923.

"A native tree about 20 feet in height, generally of pyramidal habit, which prefers moist situations, such as the borders of lakes and streams. From February until the middle of April it is ablaze with red, produced by the bracts surrounding the capsules, and forms an exceedingly striking object in the landscape. As a beautiful ornamental this tree is well worthy of further distribution." (Johansen.)

57093. TITHONIA DIVERSIFOLIA (Hemsl.) A. Gray. Asteraceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received May 24, 1923.

"A perennial composite with large yellow flowers which are produced in great abundance during the autumn and early winter months. It should therefore be a good ornamental for southern Florida during the tourist season." (Wester.)

For previous introduction, see S. P. I. No. 54461.

57094 to 57210.

From Tiflis, Transcaucasia. Seeds presented by L. Dekapreleitch, director, Plant-Breeding Department, Botanic Garden. Received May, 1923. Quoted notes by Mr. Dekapreleitch.

Local varieties of cereals introduced for department specialists.

57094 to 57114. *HORDEUM* spp. Poaceæ. **Barley.**

57094 and 57095. *HORDEUM DISTICHON PALMELLA* Harlan.

57094. No. 1. 57095. No. 2.

57094 to 57210—Continued.

57096 to 57114. *HORDEUM VULGARE* PAL-
LIDUM Seringe.

57096. No. 1.	57108. No. 11.
57097. No. 2.	57107. No. 12.
57098. No. 3.	57108. No. 13.
57099. No. 4.	57109. No. 14.
57100. No. 5.	57110. No. 15.
57101. No. 6.	57111. No. 16.
57102. No. 7.	57112. No. 17.
57103. No. 8.	57113. No. 18.
57104. No. 9.	57114. No. 19.
57105. No. 10.	

57115 to 57138. *SECALE CEREALE* L. Poa-
ceæ.

"From the Government of Tiflis."

57115. No. 1.	57127. No. 13.
57116. No. 2.	57128. No. 14.
57117. No. 3.	57129. No. 15.
57118. No. 4.	57130. No. 16.
57119. No. 5.	57131. No. 17.
57120. No. 6.	57132. No. 18.
57121. No. 7.	57133. No. 19.
57122. No. 8.	57134. No. 20.
57123. No. 9.	57135. No. 21.
57124. No. 10.	57136. No. 22.
57125. No. 11.	57137. No. 23.
57126. No. 12.	57138. No. 24.

57139 to 57210. *TRITICUM* spp. Poaceæ.57139 to 57185. *TRITICUM AESTIVUM* L.
(*T. vulgare* Vill.) Common wheat.

"From the Government of Tiflis."

57139. No. 1.	57163. No. 25.
57140. No. 2.	57164. No. 26.
57141. No. 3.	57165. No. 27.
57142. No. 4.	57166. No. 28.
57143. No. 5.	57167. No. 29.
57144. No. 6.	57168. No. 30.
57145. No. 7.	57169. No. 40.
57146. No. 8.	57170. No. 41.
57147. No. 9.	57171. No. 42.
57148. No. 10.	57172. No. 43.
57149. No. 11.	57173. No. 44.
57150. No. 12.	57174. No. 45.
57151. No. 13.	57175. No. 46.
57152. No. 14.	57176. No. 47.
57153. No. 15.	57177. No. 48.
57154. No. 16.	57178. No. 49.
57155. No. 17.	57179. No. 50.
57156. No. 18.	57180. No. 51.
57157. No. 19.	57181. No. 52.
57158. No. 20.	57182. No. 53.
57159. No. 21.	57183. No. 54.
57160. No. 22.	57184. No. 55.
57161. No. 23.	57185. No. 56.
57162. No. 24.	

57094 to 57210—Continued.

57186 to 57205. *TRITICUM DURUM* Desf.
Poaceæ. Durum wheat.

57186. No. 1.	
"From Elisabethpol."	
57187 to 57189.	
"From Baku."	
57187. No. 2.	57189. No. 4.
57188. No. 3.	
57190. No. 5.	
"From Elisabethpol."	
57191 to 57193.	
"From Baku."	
57191. No. 6.	57193. No. 8.
57192. No. 7.	
57194 and 57195.	

"From Tiflis."

57194. No. 9.	57195. No. 10.
57196 and 57197.	
"From Baku."	
57196. No. 11.	57197. No. 12.
57198. No. 13.	
"From Tiflis."	
57199. No. 14.	
"From Baku."	
57200. No. 15.	
"From Tiflis."	
57201 and 57202.	
"From Baku."	
57201. No. 16.	57202. No. 17.
57203 to 57205.	
"From Tiflis."	
57203. No. 18.	57205. No. 20.
57204. No. 19.	

57206 to 57210. *TRITICUM TURGIDUM* L.
Poaceæ. Poulard wheat.

57206 to 57209.	
"From Baku."	
57206. No. 1.	57208. No. 3.
57207. No. 2.	57209. No. 4.
57210. No. 5.	
"From Tiflis."	

57211. *HAKEA NODOSA* R. Br. Prote-
aceæ.From Hobart, Tasmania. Seeds presented by
L. A. Evans, Secretary of Agriculture, Agri-
cultural and Stock Department. Received
June 29, 1923.An ornamental Australian shrub 2 to 6 feet in
height, with slender branches, short, needlelike or
extremely narrow leaves crowded on the stems, and
axillary clusters of very small flowers. (Adapted
from *Bentham, Flora Australiensis*, vol. 5, p. 614.)57212. *AGROPYRON CRISTATUM* (L.)
Gaertn. Poaceæ. Grass.From Ekaterinoslav, Russia. Seeds presented
by the Russian Bureau of Applied Botany,
through D. Borodin, New York, N. Y. Re-
ceived June 14, 1923.

"No. 685. 1921 crop." (Borodin.)

From the Ekaterinoslav Agricultural Experiment
Station; introduced for department agrostologists.

57213. SOLANUM COMMERSOII Dunal.
Solanaceæ.

From Montevideo, Uruguay. Tubers presented by Luis Guillot, Dirección General de Paseos Públicos. Received May 31, 1923.

Introduced for department horticulturists engaged in potato breeding.

A wild relative of the potato which is found native in humid situations in the vicinity of Montevideo, Uruguay. In general appearance the wild plant resembles that of the potato, having dark-green leaves composed of two to four pairs of leaflets, white flowers, small green fruits, and small potato-like tubers with a bitter flavor. Under cultivation in France a lavender-flowered variety developed, with larger tubers which were only slightly bitter and fragrant. It has been thought that this species might be one of the parents of some of the European varieties of the potato. (Adapted from *Revue Horticole*, vol. 78, p. 303.)

For previous introduction, see S. P. I. No. 53846.

57214. CHRYSALIDOCARPUS BARONII
Beccari. Phœnicaceæ. Palm.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut, Government botanist. Received June 5, 1923.

A medium-sized palm, native to central Madagascar, with a cylindrical stem about 3 inches in diameter and regularly pinnate leaves about 4 feet long, with very narrow pinnæ 16 to 18 inches long. Native name *jarthoa*. (Adapted from *Engler, Botanische Jahrbücher*, vol. 38, *Beiblatt* 87, p. 35.)

57215. TACSONIA sp. Passifloraceæ.

From Bogota, Colombia. Seeds presented by Brother Ariste Joseph. Received June 5, 1923.

"One of the curubas from the region of Bogota, where there are several, esteemed both for their ornamental value and their fruits, which are usually the size of small cucumbers and of sprightly acid flavor. Worthy of trial in California and Florida." (*Wilson Popenoe*.)

57216. THUNBERGIA GRANDIFLORA
Roxb. Acanthaceæ.

From St. Clair, Trinidad, British West Indies. Plants presented by R. T. Williams, superintendent, Royal Botanic Gardens. Received June 11, 1923.

"The typical form of *Thunbergia grandiflora* is well known in tropical gardens, where it is highly esteemed for its large sky-blue flowers and the ornamental effect of its foliage. The white form (var. *alba*) is less widely cultivated, though perhaps as meritorious as the type. It is a strong-growing climber, useful for covering pergolas and fences, and is sufficiently frost resistant for cultivation in the warmer parts of Florida and the most favored sections of southern California." (*Wilson Popenoe*.)

57217. ARECA sp. Phœnicaceæ. Palm.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received June 6, 1923.

"A very graceful dwarf palm, with a slender trunk about 2 inches in diameter, from Palawan. It ought to be a good conservatory plant." (*Wester*.)

57218. AMPELOCISSUS ACAPULCENSIS
(H. B. K.) Planch. Vitaceæ. Grape.

From Juatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received June 27, 1923.

"This was collected on very dry, rocky mountain slopes near Jalisco in Chiapas. The vine bore enormous bunches of red grapes and was in flower at the same time. It had no leaves. The fruits were partly ripe at the end of April and in May and I believe would make excellent jelly." (*Purpus*.)

57219. SOLANUM MAGLIA Schlecht. Solanaceæ.

From Lima, Peru. Tubers presented by the director, Estación Central Agronómica. Received June 28, 1923.

A nearly glabrous wild potato, native to Chile, with angled, winged stems about 2 feet high, light-green leaves 4 to 8 inches long, and cymes of white flowers an inch in width. The subglobose or oblong tubers are about 1½ inches long, with smooth, reddish brown surfaces. When boiled the tubers shrink and become watery and insipid. (Adapted from *Curtis's Botanical Magazine*, pl. 6756.)

Introduced for department specialists engaged in potato breeding.

For previous introduction, see S. P. I. No. 53445.

57220. CALYDorea SPECIOSA (Hook.)
Herbert. Iridaceæ.

From Santiago, Chile. Bulbs presented by Dr. Carlos Camacho. Received June 1, 1923.

An ornamental bulbous plant about 4 inches high, native to Chile, where it generally prefers the lower altitudes. The flower, about 2 inches wide, is a bright navy blue with a golden center. The bulbs are eaten boiled, roasted, or baked. (Adapted from note of José D. Husbands, under S. P. I. No. 30074.)

57221 and 57222. AGROPYRON spp.
Poaceæ. Grass.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Quoted notes by Mr. Borodin.

From the Ekaterinoslav Agricultural Experiment Station; introduced for department agrostologists.

57221. AGROPYRON ELONGATUM (Host)
Beauv. (*A. rigidum* Beauv.)

"No. 368. 1920 crop. Originally from Pamir."

57222. AGROPYRON SIBIRICUM (Willd.)
Beauv.

"No. 819. 1918 crop. Originally from Krasnikut."

57223. CROTALARIA JUNCÆA L. Fabaceæ. Sunn hemp.

From Calcutta, India. Seeds purchased from Messrs. Barnard & Co. Received June 11, 1923.

Introduced for testing as a green manure, for which purpose it is used in India. It is also used in that country as a fiber plant and as a catch crop.

57224. ARTOCARPUS COMMUNIS Forst.
Moraceæ. Breadfruit.

From Honolulu, Hawaii. Plants presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received June 27, 1923.

"There is but one kind of breadfruit in Hawaii; while there are slight variations, due probably to local conditions, there are no true varietal differences." (*Pope*.)

This variety, which now grows wild throughout the Hawaiian Islands, was originally introduced from Tahiti. It has large, rough, ovate, deeply lobed leaves, and the staminate flowers appear in large yellow catkins. The large-stemmed fruit is either round or oblong and varies from 5 to 8 inches in diameter. The thick, tough rind, which is brownish at maturity, incloses a firm, very starchy, and somewhat fibrous pulp, which becomes mealy when cooked, slightly resembling a dry sweetpotato, and is much esteemed as an article of diet. The tree is propagated by suckers or by layering. (Adapted from G. P. Wilder, *Fruits of the Hawaiian Islands*, p. 100, pl. 48, under *A. incisa*.)

For previous introduction, see S. P. I. No. 44908.

57225. MALUS YUNNANENSIS (Franch.)
C. Schneid. (*Pyrus yunnanensis*
Franch.) Malaceæ. **Appie.**

From Yunnan, China. Fruits collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Received June 19, 1923.

"(No. 6760. October, 1922.) One of the finest apple trees of the Likiang Snow Range, where it grows in rocky situations at altitudes of 9,600 to 10,000 feet. It becomes 30 feet in height, with velvety leaves, and the exceedingly handsome yellow and red fruits, about 1 inch in diameter, are borne in December in large corymbs at the ends of the branches." (Rock.)

For previous introduction, see S. P. I. No. 56320.

57226 and 57227. RUBUS MACRAEI A. Gray. Rosaceæ. **Akala.**

From Hilo, Hawaii. Seeds presented by L. W. Bryan, Hawaiian Sugar-Planters' Association. Received June 19, 1923.

"The Hawaiian giant raspberry, occurring at an altitude of about 6,000 feet. It is a straight bush with the older branches thornless. The fruits, borne at the drooping tips of the branches, are very numerous, about 2 inches in diameter, and exceedingly juicy; the seeds are comparatively small. The flesh is slightly bitter but otherwise delicious. This berry is of great promise, as it grows in a region where frost is not uncommon in the winter months. It should grow well in the regions of the Pacific coast." (J. F. Rock.)

For previous introduction, see S. P. I. No. 53480.

57226. Red variety. 57227. Yellow variety.

57228. RUBUS ELLIPTICUS J. E. Smith. Rosaceæ. **Raspberry.**

From Naini Tal, United Provinces, India. Seeds presented by Rev. N. L. Rockey. Received June 18, 1923.

"This is the most common wild yellow raspberry, which grows here in great profusion. The bush is tall, thorny, and hairy. The fruit, which ripens in early May, is a trifle insipid in its sweetness and full of seeds, but it is very tender and we enjoy it. I believe it will be valuable for breeding purposes. The native name is *hissauloo*." (Rockey.)

57229 to 57247. TRIFOLIUM spp. Fabaceæ.

From Petrograd, Russia. Seeds presented by Prof. N. I. Vavilov, Bureau of Applied Botany. Received June 19, 1923. Quoted notes by Professor Vavilov.

Locally grown strains introduced for department agronomists engaged in clover breeding.

57229 to 57231. *TRIFOLIUM HYBRIDUM* L. Alsike clover.

57229 and 57230. "From the 'Schloss Sagnitz' estate, Province of Livonia."

57229. No. 72. 57230. No. 460.

57231. "No. 798. From the Marussino Forage-Plant Selection Station, District of Morshansk, Province of Tambov."

57232 to 57245. *TRIFOLIUM PRATENSE* L. Red clover.

57232. "No. 207. From the 'Schloss Sagnitz' estate, Province of Livonia."

57233. "No. 763. From the Province of Kasar."

57229 to 57247—Continued.

57234 to 57237. "From Kolodino, District of Poshekhonje, Province of Yaroslavl."

57234. No. 767.

57236. No. 769.

57235. No. 768.

57237. No. 770.

57238. "No. 776. From the Agricultural Plant-Breeding Station at Ekaterinoslav, Province of Ekaterinoslav."

57239 to 57243. "From the Marussino Forage-Plant Selection Station, District of Morshansk, Province of Tambov."

57239. No. 799.

57242. No. 802.

57240. No. 800.

57243. No. 803.

57241. No. 801.

57244. "No. 994. From the Phytosociological Station at Tsarskoye Selo, near Petrograd."

57245. "No. 1007. From the Province of Brijsansk."

57246 and 57247. *TRIFOLIUM REPENS* L. White clover.

"From the 'Schloss Sagnitz' estate, Province of Livonia."

57246. No. 144.

57247. No. 145.

57248 to 57259. GOSSYPIUM spp. Malvaceæ. **Cotton.**

From Cairo, Egypt. Seeds presented by Prof. R. H. Forbes. Received June 13, 1922. Numbered June, 1923.

Introduced for department cotton specialists.

57248 and 57249. "Pima cotton seed from the third generation of Pima cotton grown in Egypt." (Forbes.)

57248. *GOSSYPIUM* sp.

No. 47.

57249. *GOSSYPIUM* sp.

No. 48.

57250. *GOSSYPIUM* sp.

No. 51. "Pima cotton seed grown at Bah-tim, 1921." (Forbes.)

57251. *GOSSYPIUM* sp.

No. 52 (No. 111).

57252. *GOSSYPIUM* sp.

No. 53 (No. 77).

57253. *GOSSYPIUM* sp.

No. 54 (No. 310).

57254. *GOSSYPIUM* sp.

Nubari, grade 3.

57255. *GOSSYPIUM* sp.

Sakel.

57256. *GOSSYPIUM* sp.

No. 57. *Assili X*.

57257. *GOSSYPIUM* sp.

No. 57a.

57258. *GOSSYPIUM* sp.

No. 70. Prehistoric cotton.

57259. *GOSSYPIUM* sp.

No. 70a. Hindi cotton.

57260 and 57261.

From Ceylon, India. Seeds presented by the Governor of Ceylon, through Frank B. Noyes, Washington, D. C. Received June 11, 1923.

57260. *EXACUM ZEYLANICUM MACRANTHUM* (Arnott) C. B. Clarke. Gentianaceae.

An erect, slightly branched annual from the mountains of Ceylon, where it grows at an altitude of 6,000 feet. The stem, over a foot in height, is copiously leafy below and bears a terminal cluster of large handsome flowers. The latter have deep, rich-purple petals and showy bright-orange stamens. (Adapted from *Curtis's Botanical Magazine*, pl. 4771.)

57261. *OSBECKIA RUBICUNDA* Arnott. Melastomaceae.

A branched shrub, 4 to 6 feet in height, with hairy elliptic leaves about 2 inches long and brilliant purplish crimson flowers borne in clusters of one to five. Native to Ceylon. (Adapted from *Macmillan, Handbook of Tropical Gardening*, p. 393, and from *Hooker, Flora of British India*, vol. 2, p. 520.)

57262 and 57263. *CERATONIA SILIQUA* L. Caesalpiniaceae. Carob.

From Faro, Portugal. Budwood presented by Antonio Barreto Martins Terra Boa. Received June 11, 1923.

Sent in response to a request for cuttings of the best carob varieties cultivated in Portugal.

57262. *V. II. Pagenia* 500. 57263. *Mulata*.

57264 to 57266. *PROTEA* spp. Proteaceae.

From Kirstenbosch, Cape of Good Hope, South Africa. Seeds presented by Prof. R. H. Compton, director, National Botanic Gardens. Received June 20, 1923.

57264. *PROTEA LANCEOLATA* E. Mey.

"A very attractive shrub with light-yellow flowers and pale yellowish green foliage, not as striking as some of the other *Proteas* when in flower, but of decided value as a decorative plant. The habit and requirements are the same as those of the other *Proteas*." (*Dr. H. L. Shantz*.)

For previous introduction, see S. P. I. No. 48182.

57265. *PROTEA LATIFOLIA* R. Br.

"A wonderful *Protea*, with flowers 4 inches across. The Cape region is noted for its beautiful flowers, and of these none are more popular than the large flowers of the *Proteas*. The shrubs are from 2 to 6 feet high and bear a large flower on the tip of almost every branch. Seeds only are sent, but these are said to grow easily, and it will be possible to test the seedlings on several types of soil. Acid, or at least humus, soils should be tried in Florida and California." (*Dr. H. L. Shantz*.)

For previous introduction, see S. P. I. No. 48183.

57266. *PROTEA ROSACEA* L.

An attractive small shrub about 6 inches high, with numerous gracefully curved branches, needlelike leaves nearly an inch long, and sessile flower heads a little more than an inch in diameter, with bracts varying in color from bright rose to crimson. The shrub is native to the Cape of Good Hope, where it grows chiefly in the coastal regions. (Adapted from *Thielsen-Dyer, Flora Capensis*, vol. 5, sec. 1, p. 595.)

57267. *NAGEIA THUNBERGII* (Hook.) F. Muell. (*Podocarpus thunbergii* Hook.) Taxaceae.

From Hogsback, via Lovedale, Cape of Good Hope, South Africa. Seeds presented by David A. Hunter. Received June 25, 1923.

"This tree grows slowly, but finally becomes very large. The timber is fine grained and is largely used in our shops for furniture." (*Hunter*.)

A fine evergreen timber tree, up to 100 feet tall and with a trunk 4 feet in diameter, which occurs throughout all the timber forests from the Cape of Good Hope to Natal. The quality of the wood of this species is very similar to that of *Nageia elongata*, and for most purposes they are used indiscriminately.

For previous introduction, see S. P. I. No. 56197.

57268 and 57269.

From Burringbar, New South Wales, Australia. Seeds presented by B. Harrison. Received June 22, 1923.

57268. *ALLOTERPIS SEMIALATA* (R. Br.) Hitchc. Poaceae. Cockatoo grass.

"A native grass which becomes 2 to 3 feet high in sandy soil." (*Harrison*.)

"Cockatoo grass is excellent pasturage and of good seeding habit. It is leafy at the base." (*Roland McKee*.)

For previous introduction, see S. P. I. No. 56786.

57269. *GOMPHOCARPUS PHYSOCARPUS* E. Mey. Asclepiadaceae.

"A tall-growing plant which bears balloon-like pods containing brown seeds furnished with tufts of fine silky cotton." (*Harrison*.)

A branched plant 2 or 3 feet high, with opposite, very narrow, sharp-pointed leaves and 6 to 10 flowered umbels of small white flowers. (Adapted from *Thielsen-Dyer, Flora of Tropical Africa*, vol. 4, sec. 1, p. 328.)

57270. *EUGENIA DOMBEYI* (Spreng.) Skeels. (*E. brasiliensis* Lam.) Myrtaceae. Grumichama.

From Honolulu, Hawaii. Seeds presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received June 30, 1923.

"The grumichama is found both wild and cultivated in southern Brazil, particularly in the States of Parana and Santa Catharina. Elsewhere, with the exception of Hawaii, it is scarcely known.

"The tree, which grows to the same size as the orange, is shapely and attractive in appearance, with ovate-elliptic, glossy, deep-green leaves 2 to 3 inches long. The small white flowers are followed by pendent fruits, round or slightly flattened, the size of a cherry, and deep crimson. The persistent green sepals which crown the apex are a distinguishing characteristic. The skin is thin and delicate, the soft flesh melting and of a mild subacid flavor suggesting that of a Bigarreau cherry. The seeds are round or hemispherical when one or two in number; sometimes there are three or more, in which case the size is reduced and they are angular. The fruit is usually eaten fresh, but may also be used to make jams and preserves.

"The grumichama (sometimes *grumizama*, to conform to old Portuguese orthography) has recently been planted in California and Florida. In the latter State it has withstood a temperature of 26° F. without injury, which indicates that it is subtropical rather than strictly tropical in character. It prefers a deep sandy loam, but succeeds in Florida on shallow sandy soils.

"For its value as an ornamental plant as well as for its pleasant fruit, the grumichama deserves cultivation throughout the Tropics and Subtropics." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 55978.

57271 and 57272. COFFEA spp. Rubiaceae. Coffee.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received June 29, 1923.

Introduced for department specialists engaged in coffee-growing experiments.

57271. COFFEA EXCELSA Cheval.

A coffee which thrives from sea level to 700 meters, succeeds well on rather stiff clayey soils, and is quite drought resistant—it might be grown with an annual rainfall of 48 inches. It is the most resistant to drought and blight of any coffee, is of strong vigorous growth, and produces 1 kilogram of coffee from 7 to 8 kilograms of berries. *Coffea excelsa* makes an excellent stock for other coffees. The first crop is obtained at the age of 4 to 5 years and a full crop at the age of 7 to 8 years. (Adapted from *Philippine Review*, vol. 9, p. 121.)

For previous introduction, see S. P. I. No. 53438.

57272. COFFEA LAURENTH Wildem. (*C. robusta* Hort.)

A white-flowered shrub, native to Belgian Congo, with oval dark-green leaves up to a foot in length and shortly elliptic 2-seeded fruits. The roundish seeds are sometimes nearly half an inch long. (Adapted from *Actes du Premier Congrès International de Botanique*, 1900, p. 254.)

For previous introduction, see S. P. I. No. 51481.

57273. PITTOSPORUM FLORIBUNDUM Wight and Arn. Pittosporaceae.

From Darjiling, India. Seeds presented by G. H. Cave, director, Lloyd Botanic Garden. Received January 8, 1923. Numbered June, 1923.

A handsome tree, with a short straight trunk and spreading branches and numerous yellowish flowers in terminal panicles. The tree has light-colored, strong tough wood and yields an aromatic yellow resin or oleoresin having very adhesive properties. It is a native of the outer Himalayas, ascending to 3,500 feet. (Adapted from Watt, *Dictionary of the Economic Products of India*, vol. 6, pt. 1, pp. 283, 284, and Brandis, *Forest Flora of India*, p. 19.)

For previous introduction, see S. P. I. No. 47757.

57274 to 57386.

From Echo, Tiehlingho, Manchuria, China. Seeds presented by A. D. Woeikoff, director, experimental farm. Received June 21, 1923. Quoted notes by Mr. Woeikoff unless otherwise stated.

57274. ACANTHOPANAX SENTICOSUM (Rupr.) Harms. (*Eleutherococcus senticosus* Maxim.) Araliaceae.

"A very spiny shrub bearing palmate divided leaves and having at the end of its long shoots small umbels of black berries. Grows generally in dense shade. May be of use as a park or garden shrub or as an undergrowth beneath tall trees." (*F. N. Meyer*.)

For previous introduction, see S. P. I. No. 20309.

57275. ACANTHOPANAX SPSSILIFLORUM (Rupr. and Maxim.) Seem. Araliaceae.

An ornamental, hardy shrub found in eastern Siberia. The leaves are palmate, the brownish flowers occur in dense umbels on the spiny branches, and the fruits are blackish berries. (Adapted from note of *F. N. Meyer*, November 24, 1906.)

For previous introduction, see S. P. I. No. 43675.

57274 to 57386—Continued.

57276. ARUNDINELLA ANOMALA Steud. Poaceae. Grass.

"Seeds of a tall grass, 3 to 5 feet, found growing here and there in large masses; of a spread-out growth, coarse. May be of use as a fodder grass." (*F. N. Meyer*.)

For previous introduction, see S. P. I. No. 21896.

57277. AVENA SATIVA L. Poaceae. Oats.

Introduced for department cerealists.

57278. BETULA DAVURICA Pall. Betulaceae. Birch.

A tree 60 feet or more tall, with the trunk clothed with curling flakes of papery bark, giving it a curious ragged appearance. The broadly wedge-shaped, coarsely toothed leaves are dark green and smooth above and downy beneath along the midrib. This birch is native to Manchuria, Chosen, and northern China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 256.)

For previous introduction, see S. P. I. No. 33151.

57279. CALAMAGROSTIS EPIGEIOS (L.) Roth. Poaceae. Grass.

A perennial, robust Manchurian grass, introduced for department agrostologists.

57280. ERIOCHLOA VILLOSA (Thunb.) Kunth. Poaceae. Grass.

A wild grass, native to Manchuria, introduced for department agrostologists.

57281. ECTONYMUS HAMILTONIANUS Wall. Celastraceae.

A large Himalayan shrub which under favorable circumstances becomes a moderate-sized tree 30 to 35 feet high, with a short straight trunk 4 to 5 feet in girth. The clusters of 15 to 30 greenish white flowers are followed by yellow capsules the seeds of which are entirely surrounded by a scarlet aril. The fruit ripens from August onward. The leaves are brilliantly colored in fall. The wood is beautifully white, compact and close, not very hard, and is used for making spoons. The young shoots and leaves are lopped for fodder. (Adapted from *Brandis, Forest Flora of India*, p. 78, and *Arnold Arboretum Bulletin of Popular Information*, No. 13, 1911.)

For previous introduction, see S. P. I. No. 53699.

57282. FAGOPYRUM VULGARE Hill. (*F. esculentum* Moench.) Polygonaceae. Buckwheat.

"No. 175. *Ch'iao mai*. From Tsin." "

57283. FRAXINUS MANDSHURICA Rupr. Oleaceae. Ash.

A handsome tree often 100 feet in height, native to Japan and the adjacent parts of the Asiatic mainland. The leaves are up to 15 inches in length, with dull-green, bristly leaflets. It is said to be susceptible to late spring frosts. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 569.)

57284 to 57295. HOLCUS SORGHUM L. (Sorghum vulgare Pers.) Poaceae. Sorghum.

Introduced for department cerealists.

57284. "No. 36. *Niang kaoliang*, a glutinous form from Mulin."

57285. "No. 37. *Niang kaoliang*, a glutinous form from Mulin."

57274 to 57386—Continued.

57288. "No. 38. *Tie chu mi tsa*, from Ninguta."57287. "No. 39. *Hung kaoliang*, red, from Mulin."57288. "No. 40. *Hung kaoliang*, red, from Mulin."57289. "No. 41. *Hung kaoliang*, red, from Mulin."57290. "No. 42. *Hung kaoliang*, red, from Mulin."57291. "No. 45. *Ts'o kaoliang*, from Tulin."57292. "No. 46. *Shejen kaoliang*, from Ninguta."57293. "No. 47. *Shejen kaoliang*, from Ninguta."57294. "No. 48. *Shejen kaoliang*, from Ninguta."57295. "No. 49. *Shejen kaoliang*, from Ninguta."57296. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceæ. Barley.

Introduced for department cerealists.

57297. *IRIS SETOSA* Pall. Iridaceæ. Iris.

This was originally described as an Asiatic plant, but forms that can not be separated from it are found in North America. At least half a dozen forms come true to seed. The peculiarity of this iris is that the standards have dwindled until they are only small points about a half inch long, but their disappearance is usually counterbalanced by the increased size of the falls. The color is usually blue, but some shades are so light as to be almost gray. (Adapted from *W. Rickatson Dykes, Irises*, p. 64.)

57298. *JUNIPERUS RIGIDA* Sieb. and Zucc. Pinaceæ. Juniper.

A Japanese juniper which is a tree about 20 feet in height and of elegant habit with the branches pendulous at the ends. The needle-like leaves are triangular in section and very slender. The tree thrives very well in southern England. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 569.)

57299. *LESPEDEZA BICOLOR* Turcz. Fabaceæ.

Introduced for department forage-crop specialists.

A bushy, herbaceous Japanese perennial which flowers in early autumn, bearing a profusion of rosy purple flowers which practically cover its drooping branches. These branches sometimes become 6 feet in length. (Adapted from *Florists' Exchange*, vol. 49, p. 985.)

57300. *LONICERA MAACKII* (Rupr.) Herd. Caprifoliaceæ. Honeysuckle.

A bush honeysuckle, native to northeastern China, becoming about 10 feet in height with widely spreading branches and dark-green leaves which are downy on both surfaces. The pure-white flowers, an inch in diameter, are produced in pairs on the upper side of the branchlets. The fruits are red. (Adapted from note under *S. P. I. No. 53712*.)

57301. *MAACKIA AMURENSIS* Rupr. Fabaceæ.

A small tree, native to eastern Asia, with orange-brown bark, dull-green compound leaves, and short erect clusters of small yellowish white flowers. (Adapted from *Arnold Arboretum Bulletin of Popular Information*, No. 11, 1911.)

57274 to 57386—Continued.

57302 to 57308. *ORYZA SATIVA* L. Poaceæ. Rice.57302. "No. 115. *Chalbe*, from Mulin."57303. "No. 120. *Handfontsa*, from Mulin."57304. "No. 125. *Shuidfontsa*, water rice from Tulin."57305. "No. 126. *Shuidfontsa*, water rice from Ninguta."57306. "No. 127. *Shuidfontsa*, water rice from Mulin."57307. "No. 128. *Shuidfontsa*, water rice from Mulin."57308. "No. 129. *Hokkaido* (*Sapporo akage*), from Mulin."57309. *PRINSEPIA SINENSIS* Oliver. Amygdalaceæ.For previous introduction and description, see *S. P. I. No. 57087*.57310. *PRUNUS MAACKII* Rupr. Amygdalaceæ. Cherry.

A Manchurian bird cherry, 40 feet or more in height, with very smooth brownish yellow bark which peels off like that of a birch. The leaves are pointed and very finely toothed, and the white flowers are in short racemes borne on the previous season's wood. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 2, p. 242.)

57311. *RHAMNUS DAVURICA* Pall. Rhamnaceæ. Buckthorn.

A shrub or small tree, up to 30 feet in height, with more or less arching branches which are often thornless. The oblong or oval leaves are slender pointed and finely toothed. The black fruits, in dense clusters, are about one-fourth of an inch in diameter. This species is native to northeastern China and Siberia and is of value for rough shrubberies. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 2, p. 332.)

57312. *RHAMNUS PARVIFOLIA* Bunge. Rhamnaceæ. Buckthorn.

"A *Rhamnus* of dense growth, having small foliage and bearing large jet-black berries. This shrub does not grow tall, but is densely branched and assumes well-rounded forms when not mutilated. Of value as a garden park shrub and as material for medium-sized hedges, especially for the drier sections of the United States." (*F. N. Meyer*.)

For previous introduction, see *S. P. I. No. 36735*.57313. *ROSA DAVURICA* Pall. Rosaceæ. Rose.

"A Manchurian shrub closely related to the cinnamon rose, with straight, slender prickles, smaller double-serrate leaflets, purple flowers, and ovate scarlet fruits." (*H. C. Skeels*.)

For previous introduction, see *S. P. I. No. 54193*.57314. *SCHIZANDRA CHINENSIS* (Turcz.) Baill. Magnoliaceæ.

"A trailing vine of small growth, found among boulders and rocks. The leaves are not unlike those of *Actinidia kolomikta*, and the red, sour berries are in small clusters. Might be of use as a small porch and trellis vine for the colder sections of the United States." (*F. N. Meyer*.)

For previous introduction, see *S. P. I. No. 36755*.

57274 to 57386—Continued.

57315 to 57340. *SOJA MAX (L.) Piper. (Glycine hispida Maxim.) Fabaceae. Soybean.*

57315. "No. 176. *Ssu luih hwa*, from Kungshuling."

57316. "No. 177. *Kungshuling wunhsin*, from Kungshuling."

57317. "No. 178. *Ssu pinkai pai hwa*, from Kungshuling."

57318. "No. 179. *Feng tien pai mi*, from Kungshuling."

57319. "No. 180. *Kungshuling pai mi*, from Kungshuling."

57320. "No. 181. *Shao heimi*, from Kungshuling."

57321. "No. 200. *Hsiao li er huang tou tsa*, a small yellow form from Tubin."

57322. "No. 201. *Hsiao li er fang tou tsa*, from Mulin."

57323. "No. 202. *Hsiao li er fang tou tsa*, from Mulin."

57324. "No. 203. *Hsiao huang tou*, a small yellow form from Mulin."

57325. "No. 204. *Hsiao ch'in huang tou*, a golden form from Ninguta."

57326. "No. 205. *Hsiao ch'in huang tou*, a golden form from Ninguta."

57327. "No. 206. *Hsiao ch'in huang tou*, a golden form from Ninguta."

57328. "No. 207. *Hsiao ch'in huang tou*, a golden form from Ninguta."

57329. "No. 208. *Hsiao ch'in huang tou*, a golden form from Tubin."

57330. "No. 209. An early soybean from Musan, Mulin."

57331. "No. 211. *Ta ch'in mi huang tou tsa*, from Tubin."

57332. "No. 212. *Hua lia tou tsa*, from Ninguta."

57333. "No. 213. *Huang tou*, a yellow form from Ninguta."

57334. "No. 214. *Huang tou*, a yellow form from Ninguta."

57335. "No. 215. *Huang tou*, a yellow form from Mulin."

57336. "No. 216. *Hei tou*, a black form from Tubin."

57337. "No. 217. *Ch'ing tou*, a green form from Ninguta."

57338. "No. 218. *Ch'ing huang tou*, a green-yellow form from Ninguta."

57339. "No. 219. *Ch'ing huang tou*, a green-yellow form from Mulin."

57340. "No. 220. *Yao li er huang tou tsa*, from Mulin."

57341. *PHASEOLUS VULGARIS L. Fabaceae. Common bean.*

"No. 221. *O iar kong*, a Korean variety, from Mulin."

57342. *SOJA MAX (L.) Piper. Fabaceae. (Glycine hispida Maxim.) Soybean.*

"No. 222. *Hei tou*, from Ashiho."

57274 to 57386—Continued.

57343. *SPODIOPOGON SIBIRICUS Trin. Poaceae. Grass.*

"A perennial grass, 2 to 3 feet high, occurring on mountain slopes on decomposed porphyritic rock in partial shade. Possibly of forage value in Rocky Mountain localities." (*F. N. Meyer.*)

For previous introduction, see S. P. I. No. 44288.

57344. *SYRINGA AMURENSIS Rupr. Oleaceae. Lilac.*

A privetlike lilac, native to Manchuria, introduced for stock and breeding experiments.

57345. *TILIA AMURENSIS Rupr. Tiliaceae. Linden.*

A Manchurian linden with a habit similar to that of the small-leaved linden (*Tilia cordata* Mill.), with ovate, papery, long-pointed leaves which are dark green above and blue-green below. It is distinguished from the small-leaved linden by its coarser dentations. (Adapted from *Schneider, Illustriertes Handbuch der Laubholzkunde*, vol. 2, p. 374.)

57346. *TILIA MANDSHURICA Rupr. and Maxim. Tiliaceae. Linden.*

"A very large-leaved linden growing here and there in the forests. Locally used for making water troughs, barrels, and also beehives. May be utilized in the colder parts of the United States as an ornamental park and shade tree." (*F. N. Meyer.*)

For previous introduction, see S. P. I. No. 20292.

7347 to 57365. *TRITICUM AESTIVUM L. (T. vulgare Vill.) Poaceae. Common wheat.*

57347. "No. 135. *Kuang tu erh hsiao mai*, from Tubin."

57348. "No. 136. *Kuang tu erh hsiao mai*, from Ninguta."

57349. "No. 137. *Kuang tu erh hsiao mai*, from Ninguta."

57350. "No. 138. *Kuang tu erh hsiao mai*, from Ninguta."

57351. "No. 139. *Kuang tu erh hsiao mai*, from Ninguta."

57352. "No. 145. *Hsiao mai*, from Mulin."

57353. "No. 146. *Hsiao mai*, from Ninguta."

57354. "No. 147. *Hsiao mai*, from Ninguta."

57355. "No. 148. *Hsiao mai*, from Mulin."

57356. "No. 149. *Hsiao mai*, from Mulin."

57357. "No. 155. *Ta wan hsiao mai*, from Ninguta."

57358. "No. 156. *Ta wan hsiao mai*, from Ninguta."

57359. "No. 157. *Ta wan hsiao mai*, from Ninguta."

57274 to 57386—Continued.

57360. "No. 160. *Ta wan hsiao mai*, from Tabin."

57361. "No. 161. From Ninguta."

Received as *Triticum vulgare lutescens* forma *pollavensae*.

57362. "No. 162. From Ninguta."

Received as *Triticum vulgare erythrospermum* forma *gracum amylosum*.

57363. No. 163.

Received as *Triticum vulgare erythrospermum*.

57364. "No. 164. From Ninguta."

Received as *Triticum compactum icterinum*.

57365. "No. 165. From Ninguta."

Received as *Triticum ferrugineum* forma *rossicum*.

57366. *VIBURNUM BUREJAETICUM* Regel and Herd. Caprifoliaceae.

A shrub, 4 to 10 feet high, native to Chosen. The small light-green leaves and the small umbels of white flowers, followed by the jet-black berries, make this plant very ornamental. (Adapted from note of F. N. Meyer, August 20, 1906.)

For previous introduction, see S. P. I. No. 43730.

57367. *VITIS AMURENSIS* Rupr. Vitaceae. Amur grape.

A strong-growing deciduous vine somewhat similar in habit to *Vitis vinifera*. It is worth growing as an ornamental for its vigorous habit and for the fine crimson and purple autumn hues of its foliage. It is native to Chosen (Korea) and northeastern China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 2, p. 666.)

57368 to 57386. *ZEA MAYS* L. Poaceae. Corn.

57368. "No. 1. *Niang pao mi*, a glutinous white corn from Ninguta."

57369. "No. 2. *Niang pao mi*, a glutinous white corn from Tabin."

57370. "No. 5. *Pai pao mi*, a white corn from Ninguta."

57371. "No. 6. *Pai pao mi*, a white corn from Ninguta."

57372. "No. 8. *Pai pao mi*, a white corn from Ninguta."

57373. "No. 9. *Pai pao mi*, a white corn from Mulin."

57374. "No. 10. *Pai pao mi*, a white corn from Mulin."

57375. "No. 11. *Pai pao mi*, a white corn from Tabin."

57376. "No. 15. *Huang pao mi*, a yellow corn from Tabin."

57377. "No. 16. *Huang pao mi*, a yellow corn from Ninguta."

57378. "No. 18. *Huang pao mi*, a yellow corn from Mulin."

57379. "No. 19. *Huang pao mi*, a yellow corn from Ninguta."

57274 to 57386—Continued.

57380. "No. 22. *Huang pao mi*, a yellow corn from Mulin."

57381. "No. 25. *Huang pao mi*, a yellow corn from Mulin."

57382. "No. 26. *Hung pao mi*, a red corn from Ninguta."

57383. "No. 27. *Hung pao mi*, a red corn from Ninguta."

57384. No. 28.

57385. "No. 30. *Hei pao mi*, a black corn from Ninguta."

57386. "No. 32. *Hei pao mi*, a black corn from Mulin."

57387 to 57394.

From Sayo, Abyssinia. Seeds presented by Fred L. Russell, agricultural missionary. Received June 28, 1923. Quoted notes by Mr. Russell.

57387. *ELEUSINE CORACANA* (L.) Gaertn. Poaceae. Ragi.

"*Dagooja*. The seeds of this plant form an important food in western Abyssinia; for human consumption they are parched and cooked as porridge. The straw is a favorite stock feed."

57388. *ERAGROSTIS ABYSSINICA* (Jacq.) Schrad. Poaceae. Teff.

"*Teff*. Bought in the native market, near the trading center called Sayo by Europeans and Dumbi Dola by the Abyssinians."

57389. *GOSYPIUM* sp. Malvaceae. Cotton.

"Seed from cotton obtained in the native market near Sayo."

57390. *GOSYPIUM* sp. Malvaceae. Cotton.

"Found growing on an Abyssinian plantation in the lowlands near the River Birbir about 20 miles from where it empties into the Baro or Sobat River."

57391. *HORDEUM DISTICHON PALMELLA* Harlan. Poaceae. Two-rowed barley.

"The commonest variety of barley in western Abyssinia."

57392 and 57393. *TRITICUM AESTIVUM* L. (T. *vulgare* Vill.) Poaceae.

Common wheat.

57392. "A variety from western Abyssinia which the natives claim they have always had. Varieties which are not rust resistant do not survive here."

57393. "A variety from western Abyssinia which the natives say has been grown here about 40 years and was probably brought from southern Europe."

57394. *TRITICUM DICOCUM* Schrank. Poaceae. Emmer.

"Grown as a minor crop in western Abyssinia."

57395 to 57424. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceae. Sweetpotato.

From St. Croix, Virgin Islands. Tubers presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received April 2, 1923. Quoted notes by Mr. Thompson.

57395 to 57424—Continued.

57395. No. 36.

For a description of this plant, see S. P. I. Nos. 56932 and 56933.

57396. "No. 47. A Big Wig seedling. The stems are comparatively short, being 2 to 3 feet in length, are leafy, and cover the bank well. Leaves light green and cordate. The original seedling bore seven tubers weighing 13 ounces. The tubers were light red, short, thick, and not uniform in shape. The flesh is yellow, sometimes mottled with red."

57397. "No. 60. A Black Rock seedling. Vines in the nursery row slender to medium stout, 2 to 3 feet in length, leafy, and covered the bank well. Leaves dark green, broad, and 3 parted, with red midribs. Tubers smooth, short, rounded, coppery red or rose color; flesh yellow, mottled with red."

57398. "No. 63. A Black Rock seedling. Vines short, bunching, leafy. Leaves lobed and to some extent resembling those of Big Wig; midribs and vines green. The original seedling produced seven tubers weighing only 9 ounces. Tubers red and rather rough; flesh yellow."

57399. "No. 65. A Black Rock seedling. The stems are short, 1 to 2 feet long, and stout. Leaves 3 parted, with broad blade; veins and midribs red. The original seedling bore four tubers weighing 3 ounces. Tubers light red; flesh almost white."

57400. "No. 68. A Black Rock seedling. Stems 2 to 3 feet long, stout, green. Leaves large, broad, green; midrib and veins green. The original seedling bore three tubers weighing 5 ounces. Tubers red, variable in form; flesh rich yellow."

57401. "No. 72. A Big Wig seedling. The stems are about 3 feet long and leafy. Leaves dark green, 5 parted; midribs and veins red. The original seedling bore eight tubers weighing 1 pound. Tubers dark red; flesh yellow or yellow mottled with red."

57402. "No. 82. A Big Wig seedling. Leaves large, broadly lanceolate, with red midribs and veins. The original seedling bore 12 tubers weighing 2¼ pounds. Tubers red, smooth; flesh pale yellow."

57403. "No. 84. A Big Wig seedling. Vines 1 to 2 feet in length and leafy. Leaves 3 parted; midribs and veins amber."

57404. "No. 89. A Big Wig seedling. Stems 1 to 2 feet long, leafy. Leaves large, dark green, 5 parted, deeply cut and lobed; midribs and veins red. The original seedling bore two tubers weighing 1 ounce. Tubers light red, rough and irregular in shape; flesh almost white, sometimes mottled with red; cooks rather wet."

57405. No. 92.

For a description of this plant, see S. P. I. Nos. 56948 to 56951.

57406. "No. 93. A Big Wig seedling. Stems 1 to 2 feet long and leafy. Leaves dark green, lobed, 3 or 5 parted; midribs and veins red. Tubers light red, irregular in form; flesh white or white mottled with red."

57407. No. 125.

For a description of this plant, see S. P. I. No. 56959.

57395 to 57424—Continued.

57408. "No. 140. A Big Wig seedling. Stems 18 to 30 inches long, leafy. Leaves 5 lobed and resembling the Big Wig variety, dark green; midribs red. The original seedling bore seven tubers weighing 1 pound 10 ounces. Tubers dark red; flesh pale yellow with sometimes a trace of red mottling."

57409. "No. 145. A Big Wig seedling. Stems bunching, 1 to 2 feet long. Leaves small, deeply cut, with long narrow lobes. The original seedling produced one tuber weighing 2 ounces. Tubers smooth, light red; flesh pale yellow."

57410. "No. 155. A Big Wig seedling. The original seedling yielded eight tubers weighing 1 pound 6 ounces. Stems bunching, 12 to 18 inches long. Leaves dark green, broad; midribs and veins green. Tubers dark red, long, spindle shaped; flesh yellow."

57411. "No. 192. A Black Rock seedling. Stems 12 to 18 inches long, bunching and leafy. Leaves 3 or 5 parted, not deeply cut; midribs green. The original seedling produced 10 tubers weighing 1 pound 9 ounces. Tubers light red; flesh pale yellow."

57412. No. 217.

For a description of this plant, see S. P. I. Nos. 56977 to 56980.

57413. "No. 220. A Key West 'yam' (Porto Rico) seedling. The original seedling bore three tubers weighing 12 ounces. Tubers smooth, coppery red or rose color; flesh a deep golden yellow."

57414. No. 223.

For a description of this plant, see S. P. I. Nos. 56981 and 56982.

57415. "No. 230. A Big Wig seedling. Original seedling produced 12 tubers weighing 1 pound 14 ounces. Tubers dark red, smooth, shining; flesh yellow."

57416. "No. 285. A Big Wig seedling. Tubers long, spindle shaped, dark red; flesh pure white."

57417. "No. 300. A Black Rock seedling. Tubers cream yellow, long, smooth, spindle shaped. Flesh yellow, sometimes mottled with a little red; cooks dry, dark yellow, sweet, and of good quality."

57418. No. 306.

For a description of this plant, see S. P. I. No. 56995.

57419. "Big Wig variety."

For a description of this variety, see S. P. I. Nos. 56996 and 56997.

57420. "Black Rock variety."

For a description of this variety, see S. P. I. Nos. 56998 to 57000.

57421. "Hug-me-tight variety."

For a description of this variety, see S. P. I. Nos. 57001 and 57002.

57422. "John Siddon variety."

For a description of this variety, see S. P. I. Nos. 57003 and 57004.

57423. "Key West 'yam' variety."

For a description of this variety, see S. P. I. Nos. 57005 to 57010.

57424. "Wrenchy variety."

For a description of this variety, see S. P. I. Nos. 57011 and 57012.

57425 to 57514. IPOMOEA BATATAS (L.)
Poir. Convolvulaceæ. Sweetpotato.

From St. Croix, Virgin Islands. Tubers presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received May 23, 1923. Quoted notes by Mr. Thompson.

"Grown at the Virgin Islands Experiment Station in 1922."

57425 to 57438. "Big Wig seedlings."

57425. "No. 1. Vines short and bunching; stems rather slender, hairy, and dark chocolate red; leaves deeply cut, 5 parted; midribs and veins red; tuber dark red. Original seedling bore seven tubers weighing $1\frac{1}{2}$ pounds."

57426. "No. 10. Vines short, 2 to 3 feet long, and leafy; leaves large, 3 pointed; petioles 4 to 8 inches long, green with red blotch at juncture with leaf."

57427. "No. 12. Vines short, bunching, 12 to 18 inches long, stout, and leafy; leaves 5 parted; petioles 6 to 12 inches long, green to wine colored; tubers dark red. Original seedling yielded three tubers weighing 1 pound and 1 ounce."

57428. "No. 21. Vines 1 to 2 feet long, of average leafiness; leaves medium sized, deeply lobed, blade narrow, variable in pattern, some 3 and others 5 parted; midribs amber to green and not very thrifty in appearance as grown in nursery; tubers red. Original seedling bore six tubers weighing in all 13 ounces."

57429. "No. 23. Vines 24 to 30 inches long, moderately stout, green, and bearing a rank growth of large, broad, 3-parted dark-green leaves; midribs and veins green; tubers dark red. Original seedling bore three tubers weighing 5 ounces."

57430. "No. 27. Vines 3 feet long; leaves dark green, 5 parted; tubers light red. Original seedling bore seven tubers weighing 1 pound 3 ounces."

57431. "No. 32. Vines stout, 24 to 30 inches long with an abundance of foliage; leaves small to medium sized, very dark green; midribs and veins red, broad and usually 3 parted; tubers red. Original seedling bore one tuber weighing 1 ounce."

57432. "No. 33. Vines very long, slender, reaching out 10 to 15 feet on either side of the row; leaves not numerous, small, cordate, dark green; tubers red. Original seedling bore 18 tubers weighing a total of 2 pounds."

57433. "No. 34. Vines stout, 2 to 3 feet long; leaves large, lobed, 5 and 5 parted, light green; midribs and veins wine colored; tubers red blotched with white, flesh yellow."

57434. "No. 44. Vines 12 to 18 inches long, bunching; leaves small to medium sized, dark green, cordate; midribs amber to wine colored; tubers smooth, light red. Original seedling bore four tubers weighing an aggregate of 12 ounces."

57435. No. 45.

For a description of this plant, see S. P. I. No. 56941.

57436. "No. 46. Vines short and bunching; leaves medium sized, 5 parted; tubers white; flesh pale yellow, sometimes mottled with a little red."

57425 to 57514—Continued.

57437 to 57442. "Black Rock seedlings."

57437. "No. 48. Vines 24 to 30 inches long, leafy; leaves light green, cordate-pointed; midribs and veins light wine colored; tubers light red, flesh yellow, sometimes mottled with red. Original seedling bore four tubers weighing 12 ounces."

57438. "No. 49. Vines 3 feet long, covering bank completely; leaves numerous, dark green, cordate; midribs and veins red; tubers red, flesh yellow. Original hill bore 18 tubers with a total weight of 2 pounds 5 ounces."

57439. "No. 53. Vines 1 to 2 feet long, bunching; leaves very numerous, large, dark green, 3 or 5 parted; midribs and veins red; tubers red, flesh yellow. Original seedlings bore one tuber weighing 2 ounces."

57440. "No. 54. Vines 1 to 2 feet long, leafy; leaves rather light green, medium sized, and relatively broad, 3 parted; midribs and veins red; tubers peculiar frosty or glaucous red, flesh pale yellow, sometimes mottled with a little red. Original seedling bore five tubers weighing a total of 3 ounces."

57441. "No. 64. Vines 18 to 24 inches long, very leafy, covering bank and interspaces between rows; leaves dark green, deeply cut and lobed, 5 parted with long narrow blade and narrow sharp-pointed lobes; midribs and veins red; tubers red, flesh pale yellow. Original seedling bore no tubers."

57442. "No. 71. Vines 1 to 2 feet long; leaves small, 3 to 5 parted; midribs and veins amber to wine colored; tubers red, flesh pale yellow."

57443 to 57472. "Big Wig seedlings."

57443. No. 74.

For a description of this plant, see S. P. I. No. 56946.

57444. No. 75.

For a description of this plant, see S. P. I. No. 56947.

57445. "No. 78. Vines 3 feet long, leafy; leaves dark green, deeply cut and lobed, blades narrow; midribs and veins wine colored; tubers dark red, flesh pale yellow. Original seedling matured 10 tubers with a total weight of 1 pound 15 ounces."

57446. "No. 85. Vines 1 to 2 feet long, leafy; leaves dark green, 3 parted, long with a broad pointed blade; midribs and veins red; tubers dark red, flesh yellow. Original seedling yielded three tubers weighing 7 ounces."

57447. "No. 94. Vines are about 3 feet long; leaves 3 to 5 parted; midribs and veins amber; tubers red, flesh yellow."

57448. "No. 99. Vines 12 to 18 inches long, stout, leafy; leaves 3 parted; midribs red; tubers glaucous or frosty red, flesh very pale yellow to almost white. Original seedling bore three tubers weighing 5 ounces."

57449. "No. 101. Vines 1 to 3 feet long; leaves deeply cut with long narrow lobes; midribs and veins red; tubers red, flesh yellow. Original seedling bore four tubers weighing 13 ounces."

57425 to 57514—Continued

57450. "No. 104. Vines bunching, with dense foliage; leaves large, dark green, 5 parted, blade long and broad; midribs green to amber. Tubers dark red, flesh yellow and mottled with red. Original seedling bore three tubers weighing 7 ounces."

57451. "No. 107. Vines green, short and bunching; leaves green and cordate, resembling those of Black Rock in form, but with margins of younger leaves wine colored as in the Key West 'yam'; midribs and veins green; tubers coppery red to rose, flesh pale yellow. Original seedling bore two tubers weighing 6 ounces."

57452. No. 112.

For a description of this plant, see S. P. I. No. 56956.

57453. "No. 114. Vines short, plants bunching in habit; leaves dark green, large, 5 parted; midribs and veins red; tubers glaucous, frosty red, flesh pale yellow and mottled with red. Original seedling bore three tubers weighing 15 ounces."

57454. "No. 115. Vine short, bunching; leaves numerous, light yellow, 5 parted with narrow lobes; midribs wine colored with veins usually green; tubers with yellow skin and deep golden yellow flesh."

57455. "No. 117. Vines 1 to 2 feet long; leaves small, 3 to 5 parted; midribs and veins green; tubers glaucous red, flesh pale yellow."

57456. "No. 120. Vines 2 to 3 feet long, stout; leaves dark green, cordate; midribs wine colored; tubers red, flesh pale yellow, sometimes mottled with red."

57457. No. 122.

For a description of this plant, see S. P. I. No. 56957.

57458. No. 123.

For a description of this plant, see S. P. I. No. 56958.

57459. "No. 127. Vines small, bunching, erect; leaves very small, deeply cut, ragged in outline, 5 parted; midribs and veins green; tubers pale yellow, flesh deep golden yellow. Original seedling bore seven tubers weighing 1 pound."

57460. "No. 130. Vines 4 to 10 feet long; leaves lanceolate, shouldered; midribs green; tubers white, flesh pale yellow. Original seedling bore two tubers weighing 8 ounces."

57461. "No. 132. Vines low growing, bunching, and leafy; leaves small, dark green, cordate, pointed; midribs and veins red; tubers light coppery red or rose, flesh yellow and mottled with red. Original seedling yielded four tubers weighing 1 pound 2 ounces."

57462. "No. 135. Vines short and stout; 12 to 18 inches long, green; leaves cordate, pointed; midribs and veins green; tubers red, flesh yellow."

57463. "No. 143. Vines stout, hairy, 1 to 2 feet long, erect or ascending in habit; leaves comparatively small, cordate; midribs and veins wine colored; tubers dark red, flesh white, sometimes mottled with a little red. Original seedling bore three tubers weighing 1 pound 3 ounces."

57425 to 57514—Continued

57464. "No. 147. Vines short, 12 to 18 inches long; leaves small; midribs and veins red; tubers red, flesh pale yellow badly mottled with red. Original seedling bore two tubers weighing 2 ounces."

57465. "No. 148. Vines 2 to 5 feet long; leaves sparse, usually 3 parted; midribs and veins amber; tubers light red, flesh dark yellow. Original seedling bore five tubers weighing 9 ounces."

57466. "No. 149. Vines 2 to 3 feet long, leafy; leaves dark green, 5 parted; midribs and veins wine colored; tubers dark red, flesh yellow and mottled with red. Original seedling bore one tuber weighing 1 ounce."

57467. "No. 150. Vines 12 to 30 inches long; leaves very dark green, 3 parted, favoring those of Key West 'yam' but darker; midribs and veins green; tubers red, flesh yellow."

57468. No. 153.

For a description of this plant, see S. P. I. Nos. 56964 to 56966.

57469. "No. 154. Vines small, bunching, leafy; leaves light green, 5 parted, blade broad; midribs light wine colored; tubers dark red, flesh yellow. Original seedling bore four tubers weighing 9 ounces."

57470. "No. 159. Vines 12 to 18 inches long, bunching; leaves small to medium sized, dark green, relatively broad; midribs and veins green; tubers red, flesh yellow. Original seedling bore eight tubers weighing 1 pound 10 ounces."

57471. "No. 160. Vines 1 to 2 feet long, leafy; leaves small to medium sized, dark green; midribs and veins dark wine colored; tubers red, flesh yellow. Original seedling bore seven tubers weighing 1 pound 5 ounces."

57472. "No. 164. Vines 1 to 2 feet long; leaves cut in five' long narrow lobes; midribs and veins amber; tubers red. Original seedling produced red roots without tubers."

57473 to 57485. "Black Rock seedlings."

57473. "No. 167. Vines short and bunching; stems 1 to 2 feet long; leaves cordate, medium sized; midribs and veins red; tubers red, flesh pale yellow."

57474. No. 169.

For a description of this plant, see S. P. I. Nos. 56968 to 56970.

57475. "No. 179. Vines 12 to 30 inches long; leaves medium to large, lanceolate; midribs amber to wine colored; tubers dark red, flesh pale yellow to almost white. Original seedling produced 16 tubers that weighed 1 pound 2 ounces."

57476 and 57477. No. 188.

For a description of this plant, see S. P. I. No. 56971.

57476. (No. 1.) 57477. (No. 2.)

57478. "No. 189. Vines 2 to 6 feet long, slender; leaves 5 parted but not deeply cut; midribs amber to wine colored; tubers red, flesh pale yellow. Original seedling bore seven tubers weighing 1 pound 7 ounces."

57425 to 57514—Continued.

57479. "No. 194. Vines stout, 1 to 3 feet long; leaves large, cordate or cordate-lanceolate; midribs and veins red; tubers pale yellow, flesh yellow. Original seedling bore seven tubers weighing 1 pound."

57480. "No. 202. Vines bunching, leafy; 12 to 30 inches long; leaves dark green, 3 parted; midribs and veins red; tubers dark red, flesh yellow. Original seedling bore seven small tubers having a total weight of 13 ounces."

57481. "No. 203. Vines short and stout, 1 to 2 feet long; leaves dark green, medium sized, 5 parted; midribs and veins red; tubers red, flesh yellow. Original seedling bore seven tubers weighing 1 pound 13 ounces."

57482. "No. 207. Vines short, 12 to 24 inches long, leafy; leaves large, 5 parted; midribs and veins light wine colored; tubers yellow, flesh yellow. Original seedling produced white roots without tubers."

57483. "No. 208. Vines short and leafy, 12 to 30 inches long; leaves 5 parted; blades large and broad, petioles 8 to 12 inches; midribs wine colored, veins amber; tubers red, flesh yellow. Original seedling bore seven tubers weighing 11 ounces."

57484. "No. 209. Vines 3 to 4 feet long, moderately stout; leaves entire, cordate-lanceolate, immature ones wine colored, as in Key West 'yam,' especially on margins; midribs and veins amber; tubers light red, flesh yellow. Original seedling bore 10 tubers weighing 2 pounds 11 ounces."

57485. "No. 212. Vines up to 5 feet long; leaves large, dark green, ornamental, broad, shouldered; midribs and veins red; tubers yellow, flesh yellow mottled with red. Original seedling bore seven tubers weighing 14 ounces."

57486 to 57490. "Key West 'yam' seedlings."

57486. "No. 219. Vines short, bunching, 1 to 2 feet long; leaves small to medium sized, 5 parted; midribs and veins amber to wine colored; tubers red, flesh yellow. Original seedling bore one tuber weighing 11 ounces."

57487. "No. 224. Vines stout, 3 to 4 feet long; leaves large, broad, triangular; midribs and veins red; tubers yellow with a very light rose tint, flesh yellow. Original seedling produced four tubers weighing 1 pound 9 ounces."

57488. "No. 225. Vines short, 1 to 2 feet long, green; leaves medium sized, variable in form; midribs and veins green. Tubers light red, flesh pale yellow. Original seedling bore 13 tubers weighing 1½ pounds."

57489. No. 226.

For a description of this plant, see S. P. I. Nos. 56983 to 56985.

57490. "No. 227. Vines stout, 12 to 30 inches long, green; leaves large, dark green, cordate, and occasionally marginally notched; midribs and veins green; tubers dark yellow with rose tint; flesh yellow, badly mottled with red. Original seedling bore seven tubers weighing 2 pounds."

57425 to 57514—Continued.

57491 and 57492. Big Wig seedlings."

57491. "No. 228. Vines 12 to 30 inches long, hairy, and red; leaves medium to large, deeply cut and lobed, 5 parted; midribs and veins dark wine colored, tubers red with a thick red under-skin, flesh yellow and mottled with red. Original seedling bore five tubers weighing 8 ounces."

57492. "No. 229. Vines 2 to 5 feet long, leafy; leaves 5 parted; midribs and veins wine to amber; tubers yellow, flesh deep yellow. Original seedling bore eight tubers weighing 10 ounces."

57493 to 57498. "Black Rock seedlings."

57493. "No. 234. Vines short, 1 to 2 feet long, stout; leaves cordate, triangular, or variably cut on margins; midribs and veins red; tubers light red, flesh yellow."

57494. No. 235.

For a description of this plant, see S. P. I. Nos. 56986 to 56988.

57495. "No. 244. Vines bunching, 1 to 2 feet long; leaves 5 parted; midribs and veins dark red; tubers red, flesh pale yellow or almost white. Original seedling bore four tubers weighing 1 pound 3 ounces."

57496. No. 247.

For a description of this plant, see S. P. I. Nos. 56991 to 56993.

57497. "No. 249. Vines 12 to 30 inches long; leaves large, shouldered, blades broad; midribs and veins wine colored. Original seedling bore four tubers weighing 5 ounces."

57498. "No. 252. Vines slender, ascending, 12 to 30 inches long; leaves small, entire or notched at shoulder, the younger leaves wine colored at the margins; midribs and veins red; tubers red, flesh yellow and mottled with red. Original seedling bore 10 tubers weighing 1¼ pounds."

57499 to 57505. "Big Wig seedlings."

57499. "No. 253. Vines bunching, stout, 1 to 2 feet long, leafy; leaves large, 3 or 5 parted, broad blade; midribs and veins red; tubers red, flesh pale yellow. Original seedling bore light-red roots but no tubers."

57500. "No. 254. Vines 2 to 4 feet long; leaves deeply cut in five long narrow parts; midribs and veins red; tubers red, flesh white. Original seedling bore dark-red roots without tubers."

57501. "No. 255. Vines 12 to 30 inches long; leaves lanceolate, sometimes shouldered or 3 parted, pea green; midribs and veins green; tubers red, flesh yellow. Original seedling bore dark-red roots but no tubers."

57502. "No. 256. Vines bunching, leafy, 1 to 2 feet long; leaves dark green, 5 parted, resembling Big Wig parent; midribs and veins red; tubers red, flesh yellow and mottled with red. Original seedling bore 17 tubers weighing 2 pounds 2 ounces."

57503. "No. 258. Vines 1 to 2 feet long, stout; leaves large, irregularly cut and variable in pattern; midribs and veins red; tubers light red, flesh white. Original seedling bore two tubers weighing 1 pound 6 ounces."

57425 to 57514—Continued.

57504. "No. 262. Vines slender, hairy, 3 to 6 feet long; leaves light green, large, cordate; midribs and veins wine colored; tubers red, flesh yellow. Original seedling bore two tubers weighing 12 ounces."

57505. "No. 264. Vines short, 1 to 3 feet long; leaves large, dark green, cordate; midribs and veins amber to wine colored; tubers red, flesh pale yellow, occasionally mottled with a little red. Original seedling bore four tubers that weighed 1 pound 13 ounces."

57506 to 57508. "Parentage unknown."

57506. "No. 272. Vines bunching, 1 to 2 feet long; leaves small, 5 parted; midribs wine colored; tubers red, flesh pale yellow. Original seedling bore light-red roots without tubers."

57507. "No. 274. Vines 1 to 3 feet long, red, ascending; leaves triangular or 3 parted; midribs wine colored; tubers dark red, flesh yellow. Original seedling bore four tubers weighing 4 ounces."

57508. "No. 277. Vines stout, 2 to 3 feet long; leaves large, shouldered or 3 parted, blades broad; tubers red, flesh yellow. Original seedling bore nine tubers weighing 2¼ pounds."

57509 and 57510. "Volunteer seedlings from a Big Wig plat."

57509. "No. 290. Vines stout, ascending, 1 to 2 feet long; leaves light green, lanceolate or shouldered; midribs and veins amber to red; tubers yellow, flesh yellow and mottled with red. Eleven hills in the nursery yielded 6 pounds of tubers."

57510. "No. 292. Vines 1 to 2 feet long; leaves large, dark green, cordate-pointed; midribs green to amber; tubers red, flesh white and mottled with red. Eight hills in the nursery produced 8¼ pounds."

57511 and 57512. "Volunteer seedlings from a Key West 'yam' plat."

57511. "No. 295. Vines 2 to 4 feet long; leaves medium sized, cut in five long, narrow lobes; midribs and veins amber to wine colored; tubers red, flesh yellow. In the nursery 14 hills bore 18¼ pounds of tubers."

57512. "No. 297. Vines from 2 to 4 feet long, stout and leafy; leaves light green, large, cordate; midribs and veins amber to green; tubers red, flesh yellow. Seven hills in the nursery row yielded 8 pounds of tubers."

57513 and 57514. "Volunteer seedlings from a Black Rock plat."

57513. "No. 299. Vines 1 to 3 feet long; leaves large, long; midribs and veins amber to green; tubers yellow with a tint of rose, flesh yellow. Eight hills in the nursery row produced 10¼ pounds of tubers."

57514. "No. 305. Vines 1 to 2 feet long, stout and leafy; leaves 3 parted, blades broad; midribs and veins red; tubers coppery red or rose, flesh white and mottled with red."

57515 to 57611.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Quoted notes by Mr. Borodin.

A collection of seeds from the Ekaterinoslav Agricultural Experiment Station, introduced for department specialists.

57515. *BROMUS Squarrosus* L. Poaceae.
Grass.

"No. 188. 1916 crop."

57516 and 57517. *Festuca ovina sulcata* Hack. Poaceae.
Grass.

57516. "No. 459. 1915 crop. Originally from Turgai."

57517. "No. 463. 1915 crop. Originally from Samara."

57518 to 57523. *Hordeum* spp. Poaceae.
Barley.

57518. *Hordeum distichon nudum* L.
Naked barley.

"No. 0155. 1920 crop."

57519 to 57521. *Hordeum distichon palmella* Harlan. Two-rowed barley.

57519. "No. 02. 1919 crop."

57520. "No. 0254. 1920 crop."

57521. "No. 0255. 1920 crop."

57522. *Hordeum vulgare pallidum* Seringe. Six-rowed barley.

"No. 0108A. Originally from Petrograd Bureau of Applied Botany."

57523. *Hordeum vulgare pallidum* Seringe. Six-rowed barley.

"Groushetka 6-rowed barley."

57524. *Medicago platycarpa* (L.) Trautv. Fabaceae.

"No. 535. 1916 crop. Originally from Tomsk."

57525 to 57535. *Medicago sativa* L. Fabaceae.
Alfalfa.

57525. "1918 crop."

57526. "1914-15 crop. 'Arabian.'"

57527. "No. 511. 1918 crop. Originally from Fergana, Turkestan."

57528. "No. 513. 1914-15 crop. Originally from Altai Mountains."

57529. "No. 514. 1914-15 crop. Originally from Gokcha, Erivan."

57530. "No. 742. 1914-15 crop."

57531. "No. 743. 1914-15 crop."

57532. "No. 744. 1914-15 crop."

57533. "No. 745. 1914-15 crop."

57534. "No. 746. 1914-15 crop."

57535. "No. 749. 1916 crop. Originally from Kherson."

57536. *Trifolium ducutum* Schrank. Poaceae.
Emmer.

"No. 1466. 1916 crop."

57515 to 57611—Continued.

57537 to 57610. TRITICUM DURUM Desf.
Poaceæ. Durum wheat.

"All the 1920 crop, taken from Marinopol varieties."

57537. No. 28.	57574. No. 105.
57538. No. 29.	57575. No. 106.
57539. No. 30.	57576. No. 108.
57540. No. 32.	57577. No. 114.
57541. No. 34.	57578. No. 120.
57542. No. 36.	57579. No. 121.
57543. No. 37.	57580. No. 122.
57544. No. 40.	57581. No. 123.
57545. No. 41.	57582. No. 125.
57546. No. 42.	57583. No. 128.
57547. No. 43.	57584. No. 129.
57548. No. 44.	57585. No. 130.
57549. No. 48.	57586. No. 131.
57550. No. 50.	57587. No. 134.
57551. No. 52.	57588. No. 135.
57552. No. 53.	57589. No. 138.
57553. No. 54.	57590. No. 139.
57554. No. 55.	57591. No. 140.
57555. No. 58.	57592. No. 144.
57556. No. 60.	57593. No. 148.
57557. No. 64.	57594. No. 150.
57558. No. 65.	57595. No. 151.
57559. No. 66.	57596. No. 185.
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57572. No. 103.	57609. No. 238.
57573. No. 104.	57610. No. 239.

57611. STIPA PENNATA LESSINGIANA (Trin. and Rupr.) Richter. Poaceæ. Grass.

Many of the species of Stipa are valuable as fodder grasses, and this native Siberian species is introduced for testing in this country.

57612 to 57664.

From Egypt. Seeds collected by Dr. H. V. Harlan, Bureau of Plant Industry. Received June 20, 1923. Quoted notes by Doctor Harlan.

Introduced for department cerealists.

57612 to 57627. HORDEUM DISTICHON PALMELLA Harlan. Poaceæ.

Two-rowed barley.

"From the district of Mariut."

57612. "(No. 76b. Esella. May 7, 1923.) Spikes from the field of Zein Mokhtar."

57612 to 57664—Continued.

57613. "(No. 77b. Sidi Shaher Roho. May 7, 1923.) Spikes of barley collected in a field."

57614. "(No. 79b. Esella. May 7, 1923.) Spikes collected in the field of Abdel Kerim Olyan."

57615. "(No. 80b. Behig. May 7, 1923.) Spikes collected in a field."

57616. "(No. 81b. Behig. May 7, 1923.) Spikes collected in a second field near Behig."

57617. "(No. 83b. Burgel Arab. May 7, 1923.) Spikes selected in the fields of three farmers."

57618. "(No. 84b. Burgel Arab. May 7, 1923.) Spikes selected in the fields of three farmers."

57619. "(No. 87b. Abu Sir. May 7, 1923.) Spikes collected in two fields in Abu Sir."

57620. "(No. 88b. Behig. May 7, 1923.) Spikes selected in a field in Behig."

57621. "(No. 90b. Hamaria. May 8, 1923.) Spikes selected in two fields of standing barley."

57622. "(No. 91b. Hamaria. May 8, 1923.) Spikes selected in two fields of standing barley."

57623. "(No. 92b. Ikingi Mariut. May 8, 1923.) Spikes selected in two fields of standing barley."

57624. "(No. 93b. Ikingi Mariut. May 8, 1923.) Spikes selected in two fields of standing barley."

57625. "(No. 96b. Abu Sir. May 8, 1923.) Barley spikes from a depression at Abu Sir, where the water table was higher than at any other field seen. The barley was not so ripe."

57626. "(No. 99b. El Faish, Amria. May 8, 1923.) Spikes from the field of Sheik Abdel Halim, who has grown it 12 years. Supposed to be the original Mariout variety."

57627. "(No. 100b. Amria. May 8, 1923.) Spikes from the field of Ali Abdel Salsun, who has grown it 25 years. Supposed to be the original Mariout variety. Although badly mixed with barley from the delta and from Asia Minor, he was able to pick out what he thought the original form. It was similar to the California Mariout."

57628 to 57652. HORDEUM VULGARE PALLIDUM Seringe. Poaceæ. Six-rowed barley.

57628. "(No. 71. Minieh. May 4, 1923.) Spikes from a field of 'Beladi' ('Beladi' means village). This local variety contains several types. Grown under canal irrigations."

57629. "(No. 74. Shousha, Markaz Samout, Minieh. May 5, 1923.) Barley from the basin where only the one Nile irrigation is given. The seed in the basins is rarely or never changed. Under canal irrigation the seed is often changed."

"The following are all from the district of Mariut."

57630. "(No. 76a. Esella. May 7, 1923.) Spikes from the field of Zein Mokhtar."

57631. "(No. 77a. Sidi Shaher Roho. May 7, 1923.) Spikes of barley collected in a field."

57612 to 57664—Continued.

57632. "(No. 73. Sidi Shaher Roho. May 7, 1923.) Spikes from a second field."

57633. "(No. 79a. Eseila. May 7, 1923.) Spikes collected in the field of Abdel Kerim Ol. .a."

57634. "(No. 80a. Behig. May 7, 1923.) Spikes collected in a field."

57635. "(No. 81a. Behig. May 7, 1923.) Spikes collected in a second field near Behig."

57636. "(No. 82. El Maroi. May 7, 1923.) Spikes collected in a field."

57637. "(No. 83a. Burg el Arab. May 7, 1923.) Spikes selected in the fields of three farmers."

57638. "(No. 84a. Burg el Arab. May 7, 1923.) Spikes selected in the fields of three farmers."

57639. "(No. 85. Burg el Arab. May 7, 1923.) Spikes selected in the fields of three farmers."

For an illustration of these last three barleys, see Plate II. Figure 2.

57640. "(No. 86. Abu Sir. May 7, 1923.) Spikes collected in two fields in Abu Sir."

57641. "(No. 87a. Abu Sir. May 7, 1923.) Spikes collected in two fields in Abu Sir."

57642. "(No. 88a. Behig. May 7, 1923.) Spikes selected in a field in Behig."

57643. "(No. 89. El Maroi. May 7, 1923.) Spikes selected in the field of Hashem Journis."

57644. "(No. 90a. Hamaria. May 8, 1923.) Spikes selected in two fields of standing barley."

57645. "(No. 91a. Hamaria. May 8, 1923.) Spikes selected in two fields of standing barley."

57646. "(No. 92a. Ikingi Mariut. May 8, 1923.) Spikes selected in two fields of standing barley."

57647. "(No. 93a. Ikingi Mariut. May 8, 1923.) Spikes selected in two fields of standing barley."

57648. "(No. 96a. Abu Sir. May 7, 1923.) Barley spikes from a depression at Abu Sir where the water table was higher than at any other field seen. The barley was not so ripe."

57649. "(No. 97. Ikingi Mariut. May 8, 1923.) Spikes selected in the barley fields."

57650. "(No. 98. Amria. May 8, 1923.) Barley spikes from the field."

57651. "(No. 99a. El Faish, Amria. May 8, 1923.) Spikes from the field of Sheik Abdel Halim, who has grown it 12 years. Supposed to be the original Mariout variety."

57652. "(No. 100a. Amria. May 8, 1923.) Spikes from the field of Ali Abdel Sal-sun, who has grown it 25 years. Supposed to be the original Mariout variety. Although badly mixed with barley from the delta and from Asia Minor, he was able to pick out what he thought the original form. It was similar to the California Mariout."

57612 to 57664—Continued.

57653 to 57664. TRITICUM spp. Poaceae.

57653 to 57658. TRITICUM AESTIVUM L. (T. vulgare Vill.) Common wheat.

57653. "(No. 63. Matay, Minia Province. May 5, 1923.) Spikes from an unusually pure field of wheat. It is possible that the field was seeded to one of the varieties distributed by the Ministry of Agriculture, Gibson or Hindi D. Sample from the field irrigated from canal."

57654. "(No. 64. Istal, district of Minieh. May 5, 1923.) Spikes selected in a field near Istal village. The field was of the type called Hindi. The Hindi was a variety from India. Sample from the field irrigated from a canal."

57655. "(No. 66. Quatocha, district of Minieh. May 5, 1923.) Spikes selected in a field of Hindi wheat irrigated from a canal."

57656. "(No. 68. West Sarla, district of Minieh. May 5, 1923.) Spikes selected in a field irrigated from a canal."

57657 to 57660. TRITICUM DURUM Desf. Durum wheat.

57657. "(No. 65. Kom Wali, district of Minieh. May 5, 1923.) Spikes from a field near Kom Wali. The field was irrigated from a canal."

57658. "(No. 70. Minieh. May 4, 1923.) Selections from a canal-irrigated field of Hindi. One dark spike from a roadside."

57659. "(No. 72. Minieh. May 4, 1923.) Spikes from a field of Beladi irrigated from a canal."

57660. "(No. 95. District of Mariut. May 7 and 8, 1923.) Wheat spikes from barley fields. The two smaller spikes do not look like the Hindi of the delta when growing. The Romans must have grown some wheat in Mariut. There is none now. There are other wheat spikes in some of the barley samples."

57661 to 57664. TRITICUM TURGIDUM L. Poulard wheat.

57661. "(No. 67. Shousha, district of Minieh. May 5, 1923.) Spikes from a field of the Beladi type irrigated from a canal."

57662. "(No. 69. Minieh. May 4, 1923.) Spikes selected from a field of Beladi. Field irrigated from a canal."

57663. "(No. 73. Minieh. May 4, 1923.) Sample obtained at a threshing ground. Grown under a canal."

57664. "(No. 75. Shousha, near Minieh. May 5, 1923.) Wheat from the same threshing ground as the barley under No. 74 [S. P. I. No. 57629]. Also basin grown."

57665 to 57675.

From Algeria. Seeds collected by Hilton Simpson. Received June 12, 1923. Quoted notes by Mr. Simpson.

Introduced for department cerealists.

"From Oued Abdi, Aures Mountains."

57665 to 57667. *HORDEUM VULGARE* PAL-LIDUM Seringe. Poaceæ. Six-rowed barley.

57665. "(Menaar.) *Sefra* (yellow)."

57666. "(Menaar.) *Sefra* (yellow). Best seed of its kind."

57667. "(Teniet el Abed.) *Sheir Telli*."

57668 to 57674. *TRITICUM DURUM* Desf. Poaceæ. Durum wheat.

57668. "(Menaar.) *El Hamara* (the red)."

57669. "(Menaar.) *Nab el bel* (tooth of the camel)."

57670. "(Menaar.) *Shetla*."

57671. "(Teniet el Abed.) *Ajini*."

57672. "(Teniet el Abed.) *El Hamara*. Said to be old."

57673. "(Teniet el Abed.) *El Hethba*."

57674. "(Teniet el Abed.) *El Kahala*."

57675. *ZEA MAYS* L. Poaceæ. Corn.

"(Menaar.) Arabic: *Mestora*; Shawiya: *Tarkisht*."

57676. *LILIUM SULPHUREUM* Baker. Liliaceæ. Lily.

From Darjiling, India. Bulbs presented by G. H. Cave, curator, Lloyd Botanic Garden, through Harold Shantz, American vice consul in charge, Calcutta, India. Received June 9, 1923.

A large and handsome lily, native to northern Burma, with an erect green stem 6 or 7 feet high and numerous scattered, linear, bright-green leaves, the longest of which are about 4 inches long and near the base of the plant. The flowers, usually in clusters of two or three, are pendent on long peduncles, fragrant, and sulphur yellow, tinged outside with light red. (Adapted from *Curtis's Botanical Magazine*, pl. 7267.)

57677 to 57679.

From Moron, Buenos Aires, Argentina. Seeds presented by José M. Scasso, district agronomist, Argentine Ministry of Agriculture. Received June 29, 1923. Quoted notes by Sr. Scasso.

57677. *AVENA STERILIS* L. Poaceæ. Oats

"*Avena amarilla del país*. Common yellow oats, cultivated throughout the country. It is fairly hardy and resistant to trampling. While it is susceptible to rust (*Puccinia coronifera* forma *avenae*), it is not so much so as the other varieties commonly cultivated here. If sown in March it will give two cuttings of green forage and a medium-sized crop of seed in November or December. Instead of cutting for forage, this can be used as pasture, in which case, as mentioned above, it resists trampling."

57678. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

"*Alfalfa saludina*. A variety from the Province of Santiago del Estero. It is very hardy and resistant to trampling and after cutting grows up again with much vigor. On the other hand, it has the defect of losing its leaves when ripe, for which reason it is cut for hay when it is just beginning to flower. If not cut frequently it has a tendency to become woody. Under irrigation it gives seven or eight cuttings of green forage per year in Santiago del Estero. It is called 'saludina' because it is more resistant to alkali and saltpeter than the ordinary variety."

57679. *TRITICUM AESTIVUM* L. Poaceæ. (*T. vulgare* Vill.) Common wheat.

"*Trigo tipo Hungaro*. A semihard type, rather rich in gluten, cultivated in this country for 25 or 30 years. It is one of the varieties most grown here and is moderately rust resistant, but is sensitive to late frosts. The yield is medium. The variety is comparatively early, maturing in about 140 days, and is resistant to trampling. The grain does not shake out easily."

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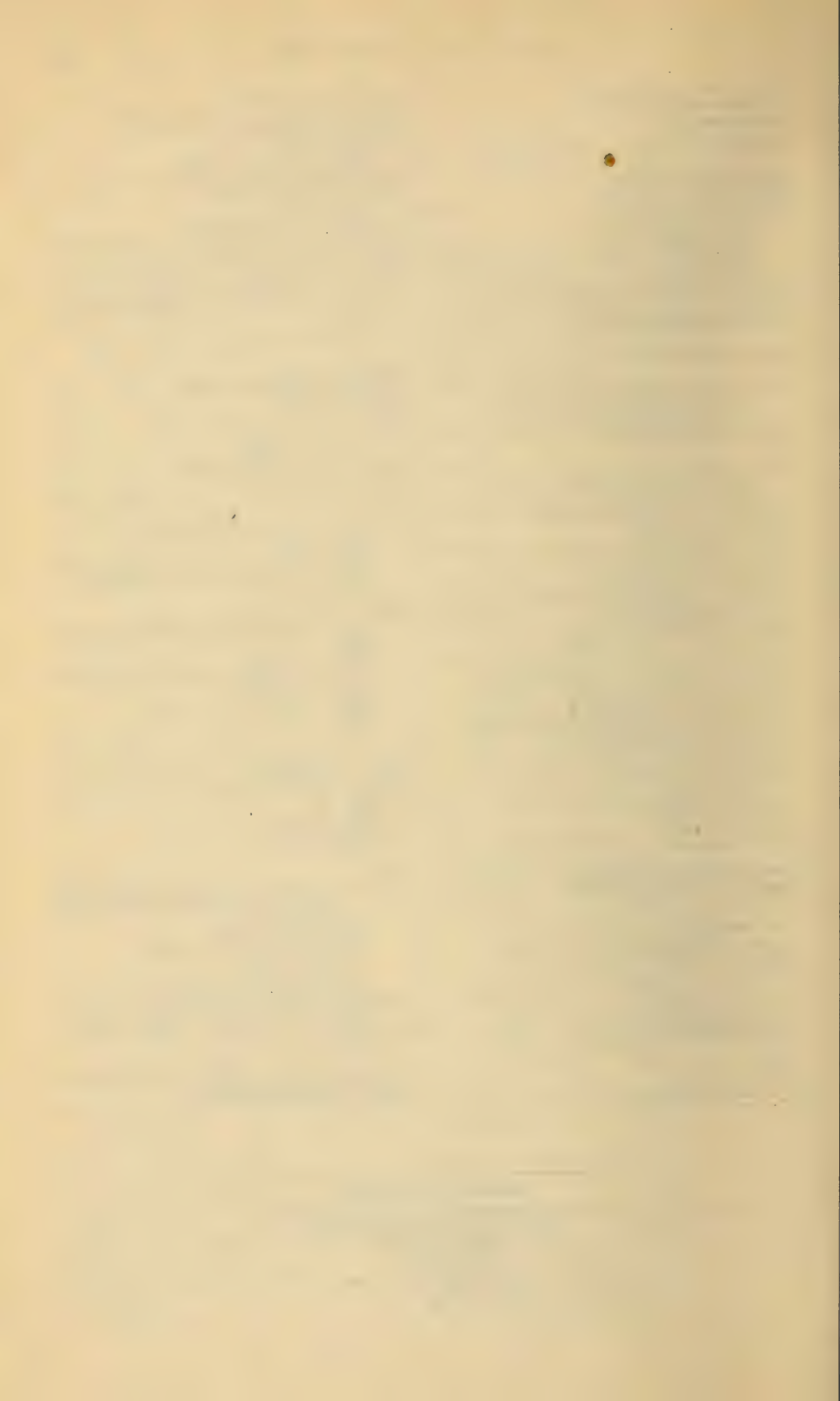
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SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM JULY 1 TO SEPTEMBER 30, 1923 (S. P. I. NOS. 57680 TO 58023)

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INTRODUCTORY STATEMENT

AS WITH the preceding inventory (No. 75), the present number contains numerous locally developed strains of cereals and other crop plants. These have been obtained either directly by representatives of the department traveling abroad or through the ever-widening avenues of exchange with foreign agricultural and botanical institutions. The explorations of H. V. Harlan in the Mediterranean region and India were discussed at some length by David Fairchild in the introductory statement to Inventory No. 75. In May, 1923, Doctor Harlan was in Egypt. From that country he sent a number of varieties of barley (*Hordeum vulgare pallidum*; Nos. 57750 to 57755) and also an Abyssinian emmer (*Triticum dicoccum*; No. 57756). By the end of the month he had reached India, where he sent from Poona a collection of seeds, including several legumes for trial as cover crops, and eight local varieties of sorghum (*Holcus sorghum*; Nos. 57835 to 57842). Early June found him in northern India and Kashmir, where several barleys (*Hordeum vulgare pallidum*, Nos. 57892 to 57898) were collected, in addition to a number of varieties of wheat (*Triticum* spp.; Nos. 57901 to 57911) and several leguminous plants.

In addition to the cereals and forage crops which have been obtained through this channel, the present inventory describes a collection of 14 varieties of rice (*Oryza sativa*; Nos. 57868 to 57881) from the Philippines, sent through the courtesy of Adrian Hernandez, Director of the Bureau of Agriculture; a species of clover from high altitudes in Africa (*Trifolium johnstoni*; No. 57698), presented by our valued correspondent, Dr. J. Burt Davy; 25 varieties of alfalfa (*Medicago sativa*; Nos. 57705 to 57729) developed by plant breeders at the Bathurst Experiment Station in South Africa; a wild red clover (*Trifolium pratense*; No. 57939) from Scotland; and seeds of several hardy crop plants from Ekaterinoslav, Russia.

The urgent desirability of breeding disease-resistant varieties of sugar cane (*Saccharum officinarum*) has led to the introduction of many strains of this plant from the Orient, the West Indies, and other regions; Nos. 57757 to 57769 represent a series of crosses which have been obtained from the Sugar Experiment Station at Pasoeroean, Java; and Nos. 57781 to 57794 a number of standard Javanese varieties, as well as crosses, from the same place.

The tropical world, far from being explored horticulturally, still continues to yield new species of fruits for cultivation in regions such as Florida, southern California, Hawaii, Porto Rico, and the Philippines. From the temperate re-

gions of the globe, however, it is difficult to obtain edible fruits unknown to horticulture. Pomological varieties of real merit may be introduced, and it is worthy of note that in recent years more and more of these are coming from the newly developed regions of the globe rather than from Europe, as was the case in the early days of American horticulture. Salvador Izquierdo, of Chile, who has assembled at his place near Santiago one of the finest collections of fruit trees in South America, sends seven new peaches (*Amygdalus persica*; Nos. 57686 to 57692) which he thinks worthy of cultivation in the United States. H. R. Wright, whose New Zealand fruits have already shown much promise in this country, sends from Auckland seven new peaches (*Amygdalus persica*; Nos. 57912 to 57918), several interesting plums (*Prunus* spp.; Nos. 57919 to 57926), and a new pear (*Pyrus communis*; No. 57927), obtained as a seedling of the Bon Chrétien. The King Cole apple (*Malus sylvestris*; No. 57937), sent by its originator, C. F. Cole, of Melbourne, Victoria, Australia, is recommended as resistant to the woolly aphis, and its fruit is of good quality and excellent for shipping. Specimens which Mr. Cole sent from Melbourne by parcel post reached Washington after a journey of six weeks in excellent condition for eating.

In the field of tropical and subtropical fruits this inventory contains a number of promising acquisitions. From Shanghai, China, Col. Clyde S. Ford has sent trees of the large, loose-skinned Swatow orange (*Citrus* sp.; No. 57693), well known and highly appreciated in China. In line with the effort to obtain good stock plants on which to graft the best varieties of the Japanese persimmon cultivated in the United States, Rev. A. S. Cooper has sent from Hupeh Province in central China seeds of the wild *Diospyros kaki* (No. 57733). Attention was directed to this plant three years ago by E. H. Wilson, of the Arnold Arboretum, who believes, from having observed its habits and requirements in its native home, that it will prove one of the best stock plants for the cultivated varieties of the same species.

Nos. 57701 and 57771 represent two lots of plants of the true breadfruit (*Artocarpus communis*), the first lot coming from the Hawaiian Islands and the second from the Canal Zone. Efforts to establish this classic tree of Polynesia in southern Florida have not been successful up to the present, but they will be continued. Its congener, the jack fruit (*A. integræ*), has in recent years come into bearing at Coconut Grove, near Miami, Fla.

It seems strange that we should be introducing superior varieties of the cherimoya (*Annona cherimola*), a native American fruit, from a region as distant as Australia. It appears, however, that this tree has found a congenial home in Queensland and that seedling forms of superior merit have originated there. Pink's Mammoth (No. 57799), from the description given by A. H. Benson, seems to be a finer variety than any which has been grown either in California or Florida.

The giant raspberry of Hawaii (*Rubus macraei*; No. 57849), to which attention was called by Mr. Rock several years ago, has been reintroduced for the benefit of North American plant breeders. Experience indicates that this species may not prove adapted for open-air culture in any part of the continental United States. Like numerous other species of *Rubus* which we have introduced from tropical and subtropical regions, it is exacting in its requirements and withstands little cold.

From the Philippines P. J. Wester sends a rare citrus fruit, the tizon (*Citrus nobilis papillaris*; No. 57854), believed to be a natural hybrid between the mandarin and the pomelo. Dr. A. Robertson Proschowsky forwards from Nice seeds of a primitive form of the plantain (*Musa paradisiaca seminiifera*; No. 57859), desired by plant breeders in the American Tropics for use in connection with the attempt to breed new forms of bananas resistant to the Panama disease (*Fusarium cubense*). Henry Pittier's peculiar variety of avocado (*Persea americana*; No. 58019) from Venezuela and Frère J. Gillet's wild *Strychnos* from the Belgian Congo (*Strychnos gilletii*; No. 58020) will both be interesting for trial in southern Florida and the West Indies.

The introduction of Manila hemp, or abaca (*Musa textilis*; Nos. 57694 to 57696) is in line with the department's attempt to establish this valuable fiber plant in tropical America. From western Java Carl Hartley has sent an edible chestnut (*Castanopsis argentea*; No. 57732) which will be tested alongside the other subtropical species of *Castanopsis* and *Castanea* which Mr. Rock has recently obtained in Yunnan. Señor Tamayo, of Ecuador, who has done much to advance the work of plant introduction in that country, sends seeds of several ornamental plants; a tomato (*Lycopersicon esculentum*; No. 57744) which will be tested by breeders

in this country; and a wild potato (*Solanum* sp., No. 57747), also for the use of breeders.

Our efforts to introduce wild South African species of gladiolus for the use of American lovers of this handsome flower have been somewhat discouraging, because of the prohibitive prices which the bulbs command, but it is hoped eventually to obtain many species on a basis of exchange with plantsmen in South Africa who desire material from this country. *Gladiolus psittacinus* (No. 57797) has been forwarded by E. Percy Phillips, of Pretoria, and will be propagated for distribution as rapidly as possible. With his customary generosity, G. H. Cave, of Darjiling, has sent a number of ornamental plants of the Himalayan region, which are described under Nos. 57882 to 57890.

The botanical determinations of seeds introduced have been made and the nomenclature determined by H. C. Skeels, and the descriptive notes have been prepared by Paul Russell, who has had general supervision of this inventory.

WILSON POPENOE,

Agricultural Explorer, Acting in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., August 31, 1925.



INVENTORY¹

57680. PRUNUS CERASOIDES D. Don.
(*P. puddum* Roxb.). Amygdalaceæ.
Cherry.

From Benenden, Kent, England. Seeds presented by Collingwood Ingram. Received September 17, 1923.

"The pendulous flowers are campanulate and deep rosy red. They are said to appear before the foliage, which is a bright glossy green. The tree, native to the highlands of Burma, is said to endure some frost in its native country." (Ingram.)

57681. OPSIANDRA MAYA O. F. Cook.
Phœnicaceæ. Palm.

From Washington, D. C. Plants presented by O. F. Cook, Bureau of Plant Industry. Received September 21, 1923.

A new genus and species from Peten, Guatemala, discovered and described by O. F. Cook. This palm has a slender, tapering trunk about 6 inches in diameter at the base; it grows to a height of 60 feet or more and is supported on a conical mass of thick roots. The leaves are few, usually about five or six, 8 to 9 feet long with about 90 pinnae on each side of the midrib. The flowers appear several joints below the leaves. The fruit is red and borne in clusters.

The palm is of special interest as having been discovered growing on the ruins of one of the ancient Maya cities. It is a tropical species, of value mainly for botanic gardens and private collections. Adapted from *The Journal of the Washington Academy of Sciences*, vol. 13, p. 182.)

57682. MILLETTIA THONNINGII (Schum. and Thonn.) Baker. Fabaceæ.

From Loanda, Angola, Africa. Seeds presented by John Gossweiler. Received September 18, 1923.

"A beautiful avenue tree of Loanda; it is easily cultivated here, since it grows well with an annual rainfall of only 300 mm. (12 inches) and can readily be propagated by cuttings 2 meters (6 feet) in length. It evidently is a poisonous species." (Gossweiler.)

"A very handsome tree, with large drooping racemes of pale-lilac flowers. It grows to a height of 30 to 40 feet, has compound leaves about 6 inches in length, and very narrow woody pods. (Adapted from *Oliver, Flora of Tropical Africa*, vol. 2, p. 128.)

Introduced for department drug-plant specialists in response to a request for fish-poisoning plants.

¹ It should be understood that the varietal names of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Seed and Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their identity fully established, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized American codes of nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications must necessarily rest with the person sending the material until the plants are grown. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

57683. RUBUS sp. Rosaceæ.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received September 29, 1923.

"(No. 9502. August 11, 1923.) Seeds of three species of edible-fruited *Rubus*, accidentally mixed, collected on the Likiang Snow Range at an altitude of 14,000 feet. These were sent separately last year." (Rock.)

57684 and 57685.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Numbered July, 1923. Quoted notes by Mr. Borodin.

From the Ekaterinoslav Agricultural Experiment Station. Introduced for department agronomists.

57684. CHAETOCHLOA ITALICA (L.) Scribn.
(*Setaria italica* Beauv.). Poaceæ. Millet.

"1914 crop. Originally from Gergana."

57685. ELYMUS SIBIRICUS L. Poaceæ. Grass.

"1921 crop."

57686 to 57692. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Amygdalaceæ.
Peach.

From Santiago, Chile. Trees presented by Salvador Izquierdo. Received July 9, 1923. Quoted notes by Señor Izquierdo, unless otherwise stated.

"These are my best canning varieties."

57686. "Selection No. 1. A variety originated at Señor Izquierdo's nursery, Santa Ines. It is described as a large white cling, round in form, very sweet, and of pleasant flavor. It ripens there in February and is considered excellent both for table use and for preserving." (Wilson Popenoe.)

For previous introduction, see S. P. I. No. 54622.

57687. "Selection No. 2. A variety originated very recently at Señor Izquierdo's nursery, Santa Ines, and not yet named. It is a cling of somewhat elliptical form with a sharp point at the apex, white fleshed, and weighing up to 450 grams. It ripens in February at Santa Ines and is considered to be a promising new sort." (Wilson Popenoe.)

For previous introduction, see S. P. I. No. 54623.

57686 to 57692—Continued.

57688. "No. 273. *Aurora*. An excellent variety maturing in March at Santa Ines. It is good for table use and suitable for commercial purposes."

57689. "No. 518. *Pomona Mejorada* (improved *Pomona*). Flesh yellow, sweet and juicy. A vigorous and hardy variety."

57690. "No. 520. *Reina Elena*. Famous for its fine sweet flavor, yellow color, and perfect form; keeps well for a long time and is especially good for shipping."

57691. "No. 520-b. *Rey Alberto*. Large, red skinned, yellow fleshed, sweet and juicy, with the pit not colored, maturing early in April. An excellent variety for preserving."

57692. "No. 522. *Transparente de Conservas*. The first white peach to ripen. Flesh white, very transparent; pit not colored; especially fragrant; excellent for preserving. Resistant to disease."

57693. CITRUS sp. Rutaceæ.

From Shanghai, China. Trees presented by Col. Clyde S. Ford, United States Postal Agency. Received July 24, 1923.

"These are trees of the large loose-skinned Swatow orange so highly appreciated in China." (Ford.)

Introduced for department citriculturists.

57694 to 57696. MUSA TEXTILIS Nee. Musaceæ. Abaca.

From the Philippine Islands. Seeds obtained by L. H. Dewey, Bureau of Plant Industry. Received July 7, 1923.

The plants grow in the Philippine Islands, chiefly in volcanic soils of rather loose texture where there is an abundant rainfall but excellent natural drainage. The abaca will probably grow only in warm, moist tropical regions, and it is possible that it will succeed in the Canal Zone." (Dewey.)

Seeds to be grown for department specialists engaged in fiber-plant investigations.

57694. No. 1. 57696. No. 3.

57695. No. 2.

57697. SCLEROSPERMA sp. Phœnicæ Palm.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received July 11, 1923.

"A superb stemless palm with large entire leaves which should be of interest as a greenhouse plant." (Gillet.)

Received as *Sclerosperma weddellii*, for which a place of publication has not been found.

57698. TRIFOLIUM JOHNSTONI Oliver. Fabaceæ. Clover.

From Kew, England. Seeds presented by Dr. J. Burtt Davy. Received July 11, 1923.

"At high altitudes in East Africa clover is one of the prominent forage plants. It grows where the temperature probably never exceeds 85° F. and where for the greater part of the year it is much below this point. However, no frosts occur in this region." (H. L. Shantz.)

A smooth perennial clover with the habit of white clover (*Trifolium repens*), found at an altitude of 10,000 feet on Kilimanjaro, Tanganyika Territory. The leaves are long stemmed, with membranous leaflets and globose flower heads about an inch in diameter. (Adapted from *Transactions of the Linnean Society, ser. 2, vol. 2, p. 351.*)

For previous introduction, see S. P. I. No. 56458.

57699. DIOSCOREA sp. Dioscoreaceæ. Yam.

From Oneroa, Mangaia Island, Cook Islands. Tubers presented by Geoffrey Henry. Received July 5, 1923.

"Maararau. Plant the same as ordinary yams; prepare the soil and put the tubers 1 or 2 inches underground." (Henry.)

"The rather small tubers received are more or less globose and have a slightly pink inner skin and white flesh. The quality of this yam when cooked is very good." (R. A. Young.)

57700. HORDEUM VULGARE PALLIDUM Seringe. Poaceæ. Six-rowed barley.

From Egypt. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received July 17, 1923.

"(No. 101. Markaz of Hehia, Province of Sharqiyh. May 14, 1923.) A threshed sample from the threshing floor, Soheich Estate." (Harlan.)

Introduced for department cerealists.

57701. ARTOCARPUS COMMUNIS Forst. Moraceæ. Breadfruit.

From Honolulu, Hawaii. Trees presented by W. T. Pope, horticulturist, Agricultural Experiment Station. Received July 19, 1923.

"There is but one kind of breadfruit in Hawaii; while there are slight variations, due probably to local conditions, there are no true varietal differences." (Pope.)

This variety, which now grows wild throughout the Hawaiian Islands, was originally introduced from Tahiti. It has large, rough, ovate, deeply lobed leaves, and the staminate flowers appear in large yellow catkins. The large-stemmed fruit is either round or oblong and varies from 5 to 8 inches in diameter. The thick, tough rind, brownish at maturity, incloses a firm, very starchy, and somewhat fibrous pulp which becomes mealy when cooked, slightly resembling a dry sweetpotato, and is much esteemed as an article of diet. The tree is propagated by suckers or by layering. (Adapted from G. F. Wilder, *Fruits of the Hawaiian Islands*, p. 100, pl. 48, under *Artocarpus incisa*.)

For previous introduction, see S. P. I. No. 57224.

57702 and 57703.

From Burringbar, New South Wales. Seeds presented by B. Harrison. Received July 2, 1923.

57702. MICROCITRUS AUSTRALASICA (F. Muell.) Swingle (*Citrus australasica* F. Muell.). Rutaceæ. Finger lime.

"The finger lime is one of the most curious and interesting of the citrus fruits. The young plants have more or less horizontally arranged branchlets, with very short internodes and small oval young leaves, these much shorter than the stiff, erect spines. The flowers are small, and the fruits are long and slender, 2½ to 4 inches long, with a loose pulp filled with a sour, rather strongly pungent juice. The shrub is native to the mountain scrubs of the coastal region of northern New South Wales and Queensland." (W. T. Swingle.)

For previous introduction, see S. P. I. No. 55588.

57703. RANDIA sp. Rubiaceæ.

"A shrub 6 feet high with white sweet-scented flowers resembling those of orange blossoms." (Harrison.)

57704. BERBERIS BEALEI Fortune. Berberidaceæ. Barberrry.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received July 2, 1923

An evergreen shrub of a stiff, erect habit, with thick unbranched stems 10 feet or more in length bearing a few leaves at the top. The leaves, over a foot in length, are composed of 7 to 13 leaflets, which in this variety at times reach a length of 8 inches and a width of 6 inches. The flowers, lemon yellow and delightfully fragrant, are in numerous slender racemes 6 to 9 inches long, terminating the stems, and the oblong purple berries are about half an inch in length. Native to China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 244.)

57705 to 57729. MEDICAGO SATIVA L.
Fabaceæ. Alfalfa.

From Bathurst, Cape of Good Hope, Union of South Africa. Seeds presented by the manager, Bathurst Experiment Station. Received July 2, 1923. Quoted notes by the manager.

57705. "No. 1. Plat 19, subplat H, rows 2 and 3. I consider this the best of the root selections from the Chinese variety, as it is very early and a quick grower."

57706. "No. 2. Selection from *Tamworth*."

57707. "No. 3. Plat 19, subplat B, row 7. Selection from *Chinese*."

57708. "No. 4. Plat 15. Selection from *Arabian*."

57709. "No. 5. Selection from *Chinese*."

57710. "No. 6. Plat 19, subplat A, row 3. Selection from *Chinese*."

57711. "No. 7. Plat 15, subplat 4. Selection from *Chinese*."

57712. "No. 8. Plat 19, subplat D, row 5. *Medicago falcata* × *Hansen*."

57713. "No. 9. Plat 19, subplat C, row 3."

57714. "No. 10. Selection from *Turkestan*."

57715. "No. 11. Plat 19, subplat A. Selection from *Chinese*."

57716. "No. 12. Plat 19, subplat A, row 12. Selection from *Chinese*."

57717. "No. 13. *Cossack* × *Hansen*."

57718. "No. 14. Hybrid flower, '*Falcata*' × *Hansen*."

57719. "No. 15. Plat 19, subplat A, row 11. Selection from *Chinese*."

57720. "No. 16. *Egyptian*."

57721. "No. 17. From three plants of *Arabian*."

57722. "No. 18. Plat 19, subplat C, row 15. Selection from *Chinese*."

57723. "No. 19. Plat 19. Selection from *Chinese*."

57724. "No. 20. Mixed."

57725. "No. 21. Plat 19, subplat H, row 9. Selection from *Chinese*."

57726. "No. 22. *Chinese*."

57727. "No. 23. Selection from *Chinese*."

57728. "No. 24. Plat 19, subplat A, row 3. Selection from *Chinese*."

57729. "No. 25. Plat 19, subplat C, row 14. Selection from *Chinese*."

57730. PANDANUS TECTORIUS Park-
ins. Pandanaceæ.

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, Department of Botany and Forestry, Experiment Station of the Sugar Planters' Association. Received July 5, 1923.

This "pandan" is widely distributed throughout the Philippine Islands, being abundant along the seashores, where under favorable circumstances it

reaches a height of 15 to 20 feet. The size and length of the leaves vary greatly. The leaves are split into strips and used for making mats or, when bleached, for weaving hats. The lower part of the ripe fruit is covered by a yellowish red pulp, which is of excellent flavor, although not commonly eaten. (Adapted from *Brown, Philippine Fiber Plants*, p. 29.)

57731. PHOENIX RECLINATA Jacq.
Phœnicaceæ. Palm.

From Pretoria, Union of South Africa. Seeds presented by C. P. Lounsbury, Chief, Division of Entomology. Received July 7, 1923.

A bushy or arborescent palm found native in the coastal districts of South Africa, where it sometimes becomes as much as 40 feet in height. The reclinate pinnate leaves are 6 to 9 feet long, with 30 to 50 pairs of leaflets. The elongate berries, about half an inch long, are yellowish when ripe, with a sweetish pulp. (Adapted from *Marloth, Flora of South Africa*, vol. 4, p. 49.)

For previous introduction, see S. P. I. No. 51734.

57732. CASTANOPSIS ARGENTEA
(Blume) A. DC. Fagaceæ.
Evergreen chestnut.

From Buitenzorg, Java. Seeds presented by H. J. Wigman, jr., administrator, Botanic Garden. Received July 10, 1923.

"Seeds of an edible chestnut collected in western Java." (Carl Hartley.)

An evergreen tree 50 to 60 feet high, with narrow thin leaves 5 to 7 inches long and very dense clusters of spiny burs; each bur is about 2 inches wide and contains normally a single nut an inch in diameter. (Adapted from *Hooker, Flora of British India*, vol. 5, p. 621, and from *Annals of the Royal Botanic Garden*, vol. 2, p. 479.)

For previous introduction, see S. P. I. No. 56461

57733. DIOSPYROS KAKI L. f. Dios-
pyraceæ. Kaki.

From Ichang, China. Seeds presented by Rev. A. S. Cooper, American Church Mission. Received July 6, 1923.

"Collected on the mountains back of Patung Hupeh, China, at an altitude of 6,000 to 8,000 feet." (Cooper.)

Introduced for use as stocks for cultivated varieties of the kaki.

57734 to 57741. PHASEOLUS spp.
Fabaceæ.

From Balboa, Canal Zone. Seeds presented by R. D. Rands, Bureau of Plant Industry. Received July 6, 1923.

Introduced for department pathologists studying bean diseases.

57734. *PHASEOLUS ACUTIFOLUS LATIFOLUS* G. F. Freeman. Tepary bean.

Chimbalito.

57735. *PHASEOLUS LUNATUS* L. Lima bean.
Habitas del pais.

57736 to 57741. *PHASEOLUS VULGARIS* L. Common bean.

57736. *Frijoles rosados*.

57737. *Porotos bayos*.

57738. *Porotos colorados*.

57739. *Porotos caballeros*.

57740. "*Triguitos*; from Chile." (Rands.)

57741. *Porotos bayos*.

57742 to 57748.

From Ibarra, Ecuador. Seeds presented by J. F. Tamayo. Received July 11, 1923. Quoted notes by Señor Tamayo, unless otherwise stated.

57742. *DATURA* sp. Solanaceæ.

"*Floripondio*. In general appearance this resembles the garden floripondio, but its fruits profusely, and the white flowers are somewhat smaller."

57743. *LUPINUS* sp. Fabaceæ. Lupine.

"*Wild altramuz*. From the Pinllar Ridge. I believe this is an annual and might be suitable as a cover crop in semiarid regions."

57744. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ. Tomato.

"The plant from which these seeds were taken produced two crops."

57745. *PSIDIUM* sp. Myrtaceæ.

"*Guayabilla*. A wild guava which grows in the hacienda La Victoria, near Ibarra. In the wild state it is a shrub 4 feet high, while under cultivation it becomes 10 feet or more in height. The leaves and flowers are like those of the cultivated guava. It may prove valuable as a stock."

57746. *SALVIA* sp. Menthaceæ. Sage.

"A wild salvia with sky-blue flowers a half inch in diameter, found on waste land and on the edges of cultivated fields. It is herbaceous, about a foot high, and roots at the nodes."

57747. *SOLANUM* sp. Solanaceæ.

"Seeds of a wild potato from La Rinconada."

"A wild solanum which grows abundantly in certain places, preferring the protection of shrubby vegetation along ravines on the paramo. The plant resembles that of the cultivated potato; the tubers, however, are rarely more than an inch long by half an inch in thickness, and they are whitish brown with white flesh. They are attacked by late-blight, as are cultivated potatoes in the same region." (*Wilson Popenoe*.)

57748. *TRIFOLIUM* sp. Fabaceæ. Clover.

"A wild clover with white flowers, collected at La Rinconada."

57749. *DIOSCOREA ALATA* L. Dioscoreaceæ. Greater yam.

From Barbados, British West Indies. Tubers presented by John R. Bovell, Director of Agriculture. Received July 5, 1923.

"*Barbados Red*. There are two varieties of this red yam, one darker than the other, and I am forwarding tubers of the darker one." (*Bovell*.)

"These tubers of the darker strain of the *Barbados Red* yam weigh from 1½ to 2 pounds each and are club shaped. The inner skin is deep purple, and except near the tip of the tuber, where it is pale purple, the flesh is moderately deep purple with scattered fibers of deeper color. This yam cooks mealy and rather dry and is of very good flavor. The color fades somewhat during cooking, leaving the yam an attractive light reddish purple." (*R. A. Young*.)

57750 to 57756.

From Egypt. Spikes collected by H. V. Harlan, Bureau of Plant Industry. Received July 12, 1923. Quoted notes by Doctor Harlan.

57750 to 57755. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceæ. Six-rowed barley.

"From the Province of Sharqiyh."

57750. "(No. 102. Shersheema, Markaz of Hehia. May 14, 1923.) Spikes from a field of the delta type of barley."

57750 to 57756—Continued.

57751. "(No. 103. Markaz of Kop Lahr. May 14, 1923.) From the field of Ahmid Selim."

57752. "(No. 104. Markaz of Kop Lahr. May 14, 1923.) Spikes selected from two fields."

57753. "(No. 105. Markaz of Kop Lahr. May 14, 1923.) From the estate of Baron Menase."

57754. "(No. 106. Markaz of Kop Lahr. May 14, 1923.) From a field."

57755. "(No. 107. Markaz of Kop Lahr. May 14, 1923.) From a field."

57756. *TRITICUM DICOCUM* Schrank. Poaceæ. Emmer.

"(No. 108. Gizeh. May 12, 1923.) Spikes of an Abyssinian emmer sent at this time because a severe storm has since damaged the plats and better spikes may not be obtainable."

57757 to 57769. *SACCHARUM OFFICINARUM* L. Poaceæ. Sugar cane.

From Pasoeroean, Java. Seeds presented by Dr. J. Kuyper, Assistant Director, Sugar Experiment Station. Received July 17, 1923. Quoted notes by Doctor Kuyper.

"These are all self-crosses."

57757. "1499 P. O. J. Of Chunnee blood."

57758. 1407 P. O. J.

57759. "*Katha*. A British Indian cane resembling Chunnee."

57760 to 57769. "All of Kassoer blood."

57760. No. 2721. 57765. No. K 44.

57761. No. 2727. 57766. No. K 89.

57762. No. 2734. 57767. No. K 262.

57763. No. 1117. 57768. No. K 1349.

57764. No. 1177.

57769. "*Kassoer*. Kassoer blood is resistant to the yellow-stripe disease."

57770. *ILEX PARAGUARIENSIS* St. Hil. Aquifoliaceæ. Yerba maté.

From Buenos Aires, Argentina. Seeds presented by Edward F. Feely, commercial attaché, through E. R. Hart, Bureau of Foreign and Domestic Commerce. Received July 19, 1923.

Seeds of yerba maté introduced for the purpose of establishing this interesting beverage plant in the United States.

For previous introduction, see S. P. I. No. 55621.

57771. *ARTOCARPUS COMMUNIS* Forst. Moraceæ. Breadfruit.

From Summit, Canal Zone. Plants presented by Holger Johansen, agronomist, Introduction Garden. Received July 30, 1923.

"The jack fruit (*Artocarpus integra*) has been grown successfully in southern Florida. The closely allied breadfruit, however, has not yet received an adequate trial in that State, and the department is now attempting to introduce seedless forms, which are the only ones worthy of extensive cultivation. These are propagated by cuttings which, as P. J. Wester, of the Philippine Bureau of Science, has shown, can readily be rooted in sand if made in the proper manner. While it is not anticipated that the breadfruit tree will ever become of economic importance in the continental United States, it is thought that it may prove an interesting addition to the list of tropical economic plants which can be grown in the gardens of southern Florida." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 57701.

57772 and 57773. COLOCASIA ESCULENTA (L.) Schott. Araceæ. Taro.

From Honolulu, Hawaii. Seedlings presented by Gerrit P. Wilder, Honolulu, through Willis T. Pope, horticulturist, Hawaii Agricultural Experiment Station. Received July 20, 1923. Quoted notes by R. A. Young.

57772. Wilder seedling No. 351.

"A taro with light-green petioles; the lower part of the petiole is slightly shaded with greenish bronze, and the sinus wing is margined with pale pink."

57773. Wilder seedling No. 354.

"The petioles are plain light green. The plants tend to flower when very young; the inflorescences of the small plants are very small, the total length of the spathe being only about 2½ inches and that of the spadix 1½ inches."

57774 to 57780.

From Berlin, Germany. Seeds purchased from Dr. A. F. Merkel, Deutsche Landwirtschaftsgesellschaft. Received July 9, 1923. Quoted notes by Doctor Merkel.

57774. *LOTUS CORNICULATUS* L. Fabaceæ.

"From Hans Kofahl, agricultural adviser, Zernikow, near Glöwen."

Sent in response to a request for a variety free from hydrocyanic acid.

57775 to 57780. *TRIFOLIUM PRATENSE* L. Fabaceæ. Red clover.

Locally grown seed introduced for department forage-crop specialists.

57775. "From Holstein. This Province has an ocean climate, with ample rainfall."

57776. "The Rhine country, where this clover has been raised for many years, has mild winters and a heavy yearly precipitation. The soil conditions are favorable, sometimes stony, and sometimes diluvial loam."

57777. "This locality is in southern Germany, and the clover is grown on the extensive plains and slopes of the Wasgau and Odenwalder forests and the northern Black Forest. The precipitation is quite heavy."

57778. "Polish red clover, grown under an east-continental climate."

57779. "From Bohemia, where there is a rather dry east-continental climate with severe winters."

57780. "From Silesia, which has rather severe winters. The precipitation is medium and the soil conditions good, being mostly diluvial sandy loam with a loess subsoil. Red clover has been grown here for many years."

57781 to 57794. SACCHARUM OFFICINARUM L. Poaceæ. Sugar cane.

From Pasoeroean, Java. Cuttings presented by Dr. J. Kuyper, assistant director, Sugar Experiment Station. Received July 19, 1923. Quoted notes by E. W. Brandes.

57781. "D. I. 52. Equals cross between Cheribon and Batjan."

57782. "E. K. 28. This variety produces nearly 90 per cent of the sugar cane in Java. It was developed by Edward Karthouse, a private grower."

57783. "2221 P. O. J. Cross between Black Cheribon and Kassoer."

57784. "2222 P. O. J. Cross between Black Cheribon and Kassoer."

57785. "2345 P. O. J. Cross between 100 P. O. J. and Kassoer."

57781 to 57794—Continued.

57786. "2364 P. O. J. Cross between 100 P. O. J. and Kassoer."

57787. "2747 P. O. J. Cross between Lahaina and 2628 P. O. J."

57788. "2752 P. O. J. Cross between 2364 P. O. J. and 1410 P. O. J."

57789. "S. W. 3. Cross between Cheribon and Batjan. This cane was developed at a private mill, the Sempal Wadak."

57790. "Ardjoena. This variety is also an old original cane, not a hybrid."

57791. "Batjan. This is an old standard variety of Java."

57792. "Fidji. This variety has been grown for many years in Java, according to the records, but probably was imported from Fiji."

57793. "Gestreebt Preanger. Similar to Louisiana Striped and possibly identical."

57794. "Lahaina. This variety is supposed to be the old Bourbon of the West Indies. It was formerly widely grown in Hawaii."

57795. PANCRACTIUM TORTUOSUM Herbert. Amaryllidaceæ.

From Aden, Arabia. Bulbs presented by Raymond Davis, American consul. Received July 19, 1923.

"The leaves remain green throughout most of the season even in the arid deserts around Aden, but the flowers appear only after one of the rare rainy periods, generally within four to seven days. The plants grow abundantly on cliffs and rocky wastes of Arabia and Egypt." (Davis.)

A relative of the well-known American spiderlily (*Hymenocallis*), with beautiful white flowers 3 to 6 inches long and a handsome toothed crown within the corolla, as in *Narcissus*. The long linear leaves are spirally twisted.

57796. PROTEA ARGENTEA L. (Leucadendron argenteum R. Br.). Proteaceæ.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by the chief conservator of forests, Forest Department. Received July 20, 1923.

Introduced for department specialists experimenting with acid-soil plants.

The *witteboom*, or *silver-leaf pine*, is a beautiful tree found native only in the immediate vicinity of Cape Town, Cape Province, where it grows up to 50 feet in height. The numerous white silky leaves, which are lanceolate and up to 7 inches long, are now an article of commerce, being used for curios, mats, bookmarks, etc.; when dry they take ink or paint and are then sold with texts or small scenes depicted on them. (Adapted from *Slim, Forests and Forest Flora of Cape Colony*, p. 294.)

For previous introduction, see S. P. I. No. 51623.

57797. GLADIOLUS PSITTACINUS Hook. Iridaceæ.

From Pretoria, Transvaal, Union of South Africa. Bulbs presented by E. Percy Phillips, Chief, Division of Botany. Received July 20, 1923.

A South African gladiolus with a large globose corm, a stem 3 feet or more in length, and usually four rigid, swordlike leaves 1 or 2 feet long. The many-flowered spike is very lax, reaching a foot or more in length. The upper segments of the flower are dark crimson, while the much smaller lower segments reflexed at the top are red and yellow mixed. (Adapted from *Thiesson-Dyer, Flora Capensis*, vol. 6, p. 158.)

57798. Gossypium sp. Malvaceæ.
Cotton.

From Ceiba, Honduras. Seeds presented by Alexander K. Sloan, American consul. Received June 16, 1922. Numbered July, 1923.

Seeds of a supposedly wild cotton from the Aguan Valley, near Trujillo, Honduras, introduced for department cotton specialists.

57799. ANNONA CHERIMOLA Mill.
Annonaceæ. Cherimoya.

From Brisbane, Queensland. Trees presented by A. H. Benson, director of fruit culture. Received July 27, 1923.

"Pink's Mammoth. Our best variety, raised from seed imported from Central America many years ago. It is of superb quality and large size, frequently weighing 5 or 6 pounds or more, and contains only five or six seeds, most of which are infertile. It is the finest of the family which I have seen in any part of the world." (Benson.)

57800. COLOCASIA ANTIQUORUM Schott.
Araceæ. Taro.

From Aitutaki, Cook Islands. Tubers presented by W. T. Hewett. Received July 30, 1923

"Niue. A taro with red inner skin and white flesh and of excellent quality when cooked. It is slightly acrid when raw." (R. A. Young.)

57801. ELAEIS MELANOCOCCA Gaertn.
Phenicææ. Palm.

From Balboa Heights, Canal Zone. Seeds presented by Holger Johansen, agronomist, Plant Introduction Garden, Summit. Received July 31, 1923.

A large spreading low palm which grows in low moist land. It is closely related to the African oil palm (*Elaeis guineensis*), and a clear oil is extracted from the kernels in small quantities by the natives, who prize it highly for cooking.

For previous introduction, see S. P. I. No. 50480.

57802. PHASEOLUS LUNATUS L. Fabaceæ.
Lima bean.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received July 31, 1923.

"A Lima bean perennial in Cuba." (Towns.)

Introduced for department horticulturists.

57803 to 57810. PHASEOLUS spp. Fabaceæ.

from Port of Spain, Trinidad, British West Indies. Seeds presented by R. D. Rands, Bureau of Plant Industry. Received August 1, 1923. Quoted notes by Doctor Rands.

Locally grown varieties introduced for department specialists engaged in bean-disease investigations. Nos. 57803 to 57809 are Venezuelan varieties which were purchased in the market at Caracas.

57803 to 57805. PHASEOLUS LUNATUS L.
Lima bean.

57803. *Tapiramos blancos.*

57804. *Guaracaros blancos.*

57805. *Guaracoles coloradas.*

57806 to 57810. PHASEOLUS VULGARIS L.
Common bean.

57806. *Guaracaro ballo.*

57807. *Guaracolas guacamayas.*

57808. *Ponchas blancas.*

57809. *Ponchas coloradas.*

57810. "A Trinidad variety obtained here."

57811. ANNESLIA PORTORICENSIS (Willd.) Donn.-Smith (Calliandra portoricensis Benth.). Mimosaceæ.

From Rio Piedras, Porto Rico. Seeds presented by E. Murray Bruner, forester, Porto Rico Forest Service. Received July 7, 1923.

A very handsome white-flowered shrub or small tree, native to the West Indies, which is cultivated as an ornamental in Honolulu, Hawaii. The branches are slender and erect, and the leaves have 10 to 30 pairs of narrow leaflets. (Adapted from Rock, *Leguminous Plants of Hawaii*, p. 21.)

57812 to 57818.

From India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received July 23, 1923. Quoted notes by Doctor Harlan.

57812 and 57813. HORDEUM VULGARE PALLIDUM Serrige. Poaceæ. Six-rowed barley.

57812. "(No. 122. Delhi. June 4, 1923.) Purchased in the market."

57813. "(No. 127. Simla. June 7, 1923.) Barley of the new crop secured from a farmer in the river valley northeast of Simla at an altitude of about 5,700 feet."

57814 to 57818. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceæ. Common wheat.

57814. "(No. 123. Delhi. June 4, 1923.) Purchased in the market."

57815. "(No. 124. Delhi. June 4, 1923.) Purchased in the market."

57816. "(No. 125. Simla. June 7, 1923.) Local wheat purchased in the market."

57817. "(No. 126. Simla. June 7, 1923.) Local wheat of new crop purchased in the market."

57818. "(No. 128. Simla. June 7, 1923.) Wheat of new crop secured from a threshing floor in the river valley northeast of Simla at an altitude of about 5,700 feet."

57819. TALINUM TRIANGULARE (Jacq.) Willd. Portulacaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received July 31, 1923.

An erect, branching herbaceous plant, about 3 feet high, native to the West Indies and recently introduced from Java into the Philippine Islands. The flowers are pink and produced in great profusion. In the Philippines the fleshy, tender leaves are boiled like spinach and served with meat, for which purpose they are excellent. The plant is easily propagated by cuttings. (Adapted from the *Philippine Agricultural Review*, vol. 14, p. 365.)

57820. CARYOPHYLLUS MALACCENSIS (L.) Stokes (Eugenia malaccensis L.). Myrtaceæ. Ohia.

From Honolulu, Hawaii. Seeds presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received August 1, 1923.

"The fruit is most esteemed, and while in Panama I had the pleasure of tasting preserves made from it which seem to have a characteristic flavor of some merit. When in bloom, the branches of this tree are gorgeous, covered as they are with masses of large flowers an inch or so across, composed of hundreds of beautiful deep rose-pink or crimson stamens. The tree itself is a beautiful ornamental, and it would seem as though more work in the selection of this species should be attempted. The remarkable structure of the seeds suggests a high degree of polyembryony. When the seed germinates (as many of them were doing under the tree) the whole large brilliant-green mass seemed to break up into fragments." (David Fairchild.)

For previous introduction, see S. P. I. No. 54530.

57821 to 57826.

From India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received July 31, 1923.

57821 and 57822. HORDEUM VULGARE PALLIDUM Seringe. Poaceae. **Six-rowed barley.**

57821. "(No. 129. Solan. June 10, 1923.) This barley was grown near Rauari under irrigation. It is the best brewing barley of India. There are few broken kernels and less than 2 per cent of 'still' kernels. Secured from the Solan brewery."

57822. "(No. 136. Garhi Kashmiria. June 12, 1923.) Seed of the new crop."

57823. LENTILLA LENS (L.) W. F. Wight (*Lens esculenta* Moench.). Fabaceae. **Lentil.**

"(No. 133. Solan. June 10, 1923.) *Masoor Dhol*. Secured from H. E. J. Peake, of the Solan brewery. Grown in the hills at an altitude of 4,800 feet."

57824. PHASEOLUS MUNGO L. Fabaceae. **Urd.**

"(No. 132. Solan. June 10, 1923.) *Oorad Dhol*. Secured from H. E. J. Peake, of the Solan brewery. Grown in the hills at an altitude of 4,800 feet."

57825 and 57826. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceae. **Common wheat.**

57825. "(No. 134. Garhi Kashmiria. June 12, 1923.) New crop just threshed."

57826. "(No. 135. Garhi Kashmiria. June 12, 1923.) A second grade of wheat from the new crop."

57827. LYCOPERSICON ESCULENTUM Mill. Solanaceae. **Tomato.**

From Tucuman, Argentina. Seeds presented by Dr. W. E. Cross, Estacion Experimental Agricola. Received August 6, 1923.

"Seeds from blight-resistant plants of Parana grown at the Tucuman Experiment Station in 1921. This variety is the most extensively planted in Tucuman, especially in the Lules region. It is generally regarded as the most blight-resistant variety, but my own experience has led me to the conclusion that it is not completely resistant, although there are always a number of plants which do not suffer at all when the rest of the plants have died from the disease." (*E. F. Schultz*.)

For previous introduction, see S. P. I. No. 55591.

57828. PSIDIUM GUAJAVA L. Myrtaceae. **Guava.**

From Dominica, British West Indies. Seeds presented by A. Keys, Botanic Gardens. Received August 13, 1923.

"*Large Indian guava*. This is a round variety, flattened at each end, and about $3\frac{1}{2}$ inches in greatest diameter. The fruit, which is said to be of very good quality, weighs about 12 ounces. The variety was introduced into Dominica from India several years ago." (*Keys*.)

57829. IPOMOEA PAPILIO Hall. f. Convolvulaceae. **Morning-glory.**

From Italian Somaliland, Africa. Seeds presented by Dr. G. Soassellati Sforzolini, Direttore Agrario e Zootecnico, Villaggio Duca Abruzzi. Received August 6, 1923.

A long trailing vine, with smooth, green, deeply toothed leaves half an inch long and rose-red flowers over an inch long and wide. The vine is native to several parts of South Africa. (Adapted from *Thiselton-Dyer, Flora Capensis*, vol. 4, sect. 2, p. 167.)

57830 and 57831. CROTALARIA spp. Fabaceae.

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, General Experiment Station, Department of Agriculture. Received August 13, 1923. Quoted notes by Doctor Cramer.

57830. CROTALARIA ANAGYROIDES H. B. K.

"This species is now given preference here in Java as green manure; it produces more vegetation and does not layer so easily. It is especially satisfactory in higher altitudes and is in such great demand for the tea plantations in the higher mountains that we have to limit our seed distributions to small quantities."

57831. CROTALARIA USARAMOENSIS Baker f.

"Although I introduced this from East Africa as a fiber plant, it does not seem to be very promising as such. It has proved very successful, however, as a green manure, when grown in alternation with corn, producing large quantities of vegetation rich in nitrogen. In the cinchona plantations it is very satisfactory, as it endures partial shade and forms a dense low growth which keeps the edges of the terraces together."

57832. DIOSCOREA ALATA L. Dioscoreaceae. **Greater yam.**

From Summit, Canal Zone. Tuber presented by Holger Johansen, agronomist, Introduction Garden. Received August 13, 1923.

"This yam is white fleshed and remains perfectly white when cooked. It is slightly fibrous but otherwise is of very good quality. The tuber received was somewhat elongated and of good shape for handling; it weighed about 5 pounds." (*R. A. Young*.)

57833 to 57844.

From Poona, India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received August 15, 1923. Quoted notes by Doctor Harlan.

57833. CYAMOPSIS TETRAGONOLOBA (L.) Taub. (*C. psoraloides* DC.). Fabaceae. **Guar.**

"(No. 120. May 29, 1923.) Secured from the Poona Agricultural College. Seeded in June and harvested in October."

57834. DOLICHOS LABLAB L. Fabaceae. **Hyacinth bean.**

"(No. 121. May 29, 1923.) Secured from the Poona Agricultural College. Seeded in September and harvested in February."

57835 to 57842. HOLCUS SORGHUM L. (Sorghum vulgare Pers.). Poaceae. **Sorghum.**

"(Nos. 109, 111 to 117. May 29, 1923.) Selected from heads in the Poona collection of over 100 varieties. Especial attention was paid to the time of seeding and ripening. Most varieties here ripen in the winter months, but several of those sent ripen from September to November and therefore may find the proper length of day in the States."

57835. "(No. 109.) An agricultural variety known as *Aisपुरi*. Possibly the *Elichpuri* of Bulletin 30, page 92, by Gamina, 1908. It is grown in the district of Khandesh in rotation with cotton on black cotton land of low rainfall. Sown in June and harvested in the latter part of November. Loose panicle 10 inches long."

57836. "(No. 111. District of Khandesh.) *Garya*. Sown the latter part of June and harvested the latter part of October and the first of November. Compact panicle 7 inches long."

57833 to 57844—Continued.

57837. "(No. 112. Dharwar.) *Nandyal*. Seeded the latter part of July and harvested the latter part of December. Panicle slender, 9 inches long."

57838. "(No. 113.) *Muddi Nandyal*. The season the same as for No. 112 [S. P. I. No. 57837]. Panicle rather compact and 5 inches in length."

57839. "(No. 114. District of Sholapuri.) *Sholapuri*. A tall-growing variety. Panicle 7½ inches long. Seeded the middle of June and harvested in December."

57840. "(No. 115. Dekkan.) *Nilwa*. Sown in June and harvested in September. Panicle 5 inches and medium dense. This is a very early variety, but the grain is not so good. It is also used for fodder, for which purpose it is seeded thick."

57841. "(No. 116. Dekkan.) *Utavali*. Similar to No. 115 [S. P. I. No. 57840], but sown later (end of July). It ripens in 9 or 10 weeks. This is also largely used for fodder."

57842. "(No. 117. District of Gujrot.) *Sundhia*. This variety, which is the best for fodder, has a loose panicle and a fine stalk. It matures in 60 days and is seeded either early or late."

57843. *PHASEOLUS ACONITIFOLIUS* Jacq. Fabaceae. Moth bean.

"(No. 119. May 29, 1923.) A small-leaved finetalked variety from Dekkan secured from the Poona Agricultural College. Several crops of forage are cut. It is seeded in June, and the cutting is not finished until January."

57844. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

"(No. 118. Dekkan. May 29, 1923.) Received from the Poona Agricultural College."

57845 to 57848. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceae. Sweet potato.

From Buitenzorg, Java. Tubers presented by Dr. P. J. S. Cramer, director, General Experiment Station, Department of Agriculture. Received August 13, 1923.

"These are considered the best sweetpotato varieties at our plant-breeding station." (Cramer.)

57845. No. 2. *Boled*.

57846. No. 1. *Bolevak*.

57847. No. 4. *Menes moeder*.

57848. No. 3. *Menes 19*.

57849. *RUBUS MACRAEI* A. Gray. Rosaceae. Akala.

From Honolulu, Hawaii. Seeds presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received August 17, 1923.

"The Hawaiian giant raspberry, occurring at an altitude of about 6,000 feet. It is a straight bush with the older branches thornless. The fruits, borne at the drooping tips of the branches, are very numerous, about 2 inches in diameter and exceedingly juicy; the seeds are comparatively small. The flesh is slightly bitter but otherwise delicious. This berry is of great promise, as it grows in a region where frost is not uncommon in the winter months. It may succeed in some sections of California. (J. F. Rock.)

For previous introduction, see S. P. I. No. 57226.

57850. *PRUNUS* sp. Amygdalaceae.

Cherry.

From Szemao, Yunnan, China. Seeds presented by J. D. Fullerton. Received August 15, 1923.

Seeds of a wild cherry from southwestern China, introduced for testing as a stock for cultivated varieties.

57851 to 57853. *PLUMERIA* spp. Apocynaceae.

From Honolulu, Hawaii. Seeds presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received August 17, 1923. Quoted notes by Mr. Pope unless otherwise stated.

"Few tropical shrubs are more highly esteemed than the *Plumerias*. Though they are not particularly graceful in habit, the beauty and fragrance of their star-shaped flowers make them worthy of cultivation in every tropical garden. They succeed in southern Florida, where several species are already grown, though not so extensively as they deserve. From the white flowers of *Plumeria alba* the rare and costly frangipani perfume is distilled." (Wilson Popenoe.)

57851. *PLUMERIA* sp.

"Seeds of a pink *Plumeria* from slender pods."

57852. *PLUMERIA* sp.

"Seeds of a pink *Plumeria* from broad spreading pods."

57853. *PLUMERIA* sp.

"Seeds of a pink *Plumeria* from pods attached at an angle."

57854. *CITRUS NOBILIS PAPILLARIS* (Blanco) Wester. Rutaceae.

From Manila, Philippine Islands. Budwood presented by P. J. Wester, Bureau of Agriculture. Received August 11, 1923.

"A spreading, small tree, attaining a height of 6 meters or more, in habit similar to the pomelo; spines small or wanting; leaves 10 to 14 centimeters long, 5 to 6 centimeters broad, ovate to elliptical-oblong, crenate, dark green and shining above, crinkly, base broadly acute, apex narrowly acute to almost acuminate and caudate; petioles 17 to 20 millimeters long with narrow-winged margin; flowers not seen; fruit large, from 6 to 10 centimeters in diameter, 170 to 580 grams in weight, somewhat compressed at basal half, usually ending in a more or less conspicuous nipple, which, however, is sometimes wanting; apex flattened or even depressed; surface smooth, pale greenish turning to orange-yellow; skin medium thin; locules 10 to 11, separable from each other, and the skin like the mandarin; pulp yellowish, subacid, very juicy, and of good flavor with marked 'quinine' taste; juice cells large; seeds very few, rarely more than seven."

"The tizon is extremely rare and only a few trees are found in cultivation, confined to the citrus district of Batangas, Luzon. The trees are said to be quite prolific, and the fruit matures from September to December. This fruit, on account of its scarcity, is of no commercial importance. However, it would be an acceptable dessert or breakfast fruit, being a little more acid than the orange. It is said to be an introduction from Spain. The tizon is without doubt the *Citrus papillaris* described by Blanco in 'Flora Filipinas.'

"The tizon is believed to be a natural hybrid between the mandarin and the pomelo. It has inherited the loose-skinned character, large juice cells, partial absence of spines, and leaf character of the first-named species to which it is (without the writer having had the opportunity to examine the flowers) unquestionably more closely related than to any other species in the genus." (Wester.)

57855. TRIFOLIUM MEDIUM Huds.
Fabaceæ. Clover.

From Waverley, New Zealand. Seeds presented by the manager, Mounahaki Experimental Farm. Received August 17, 1923.

Seeds of a type of clover which is said to spread by means of underground stolons. Introduced for department clover specialists.

57856. QUERCUS DISCOCARPA Hance.
Fagaceæ.

From Buitenzorg, Java. Seeds presented by the director, Botanic Garden. Received August 3, 1923.

A lofty tree, 100 to 130 feet in height, with leathery narrowly oval leaves about 5 inches in length and small spiny hemispherical or roundish acorns about half an inch long. The tree is native to the Federated Malay States. (Adapted from *Annals of the Royal Botanic Garden, Calcutta*, vol. 2, p. 76.)

57857 to 57860.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received August 22, 1923.

57857. BERBERIS BEALEI Fortune. Berberidaceæ.
Barberry.

For previous introduction and description, see S. P. I. No. 57704.

57858. GLADIOLUS SEGETUM Ker. Iridaceæ.

"One of the most beautiful wild flowers around here; it might be very valuable for hybridizing." (*Proschowsky*.)

A European gladiolus of free habit, fond of warm dry soil and a sunny situation, with rather small rose-purple flowers. It is an admirable species for mixed borders. (Adapted from *Robinson, English Flower Garden*, p. 577.)

For previous introduction, see S. P. I. No. 56629.

57859. MUSA PARADISIACA SEMINIFERA (Lour.) Baker. Musaceæ. Plantain.

A wild seed-bearing form of the plantain, with small oblong greenish fruits full of seeds. These fruits are about a third of the size of the common banana and are of pleasant taste, although encumbered by numerous seeds. The plant is quite ornamental and harder than the common banana, so that it may be possible, by selection or hybridization, to extend the range of banana culture into cooler regions. (Adapted from *Bailey, Standard Cyclopedia of Horticulture*, vol. 4, p. 2079, and letter of *Doctor Proschowsky*, June 30, 1917.)

For previous introduction, see S. P. I. No. 45007

57860. VERONICA HULKEANA F. Muell. Scrophulariaceæ.

One of the handsomest and most graceful of all the New Zealand veronicas. It is easily distinguished from others of the group by its shining dark-green, coarsely toothed leaves about 3 inches long and its long sprays of lilac-colored flowers which are in panicles sometimes a foot in length.

57861 to 57867.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Numbered July, 1923. Quoted notes by Mr. Borodin.

From the Ekaterinoslav Agricultural Experiment Station; introduced for department agrostologists.

57861 to 57866. BROMUS spp. Poaceæ.**Bromegrass.****57861. BROMUS HORDEACEUS L. Soft chess.**

"No. 412. 1915 crop. Originally from Khar-kof."

57861 to 57867—Continued.**57862 to 57865. BROMUS INERMIS Leyss.**

57862. "1918 crop."

57863. "No. 190. 1916 crop."

57864. "No. 193. 1916 crop."

57865. "No. 814. 1918 crop. Originally from Amur, Siberia."

57866. BROMUS STERILIS L.

"No. 444. 1917 crop. Originally from Turkestan."

57867. ECHINOCHLOA CRUSGALLI (L.) Beauv. Poaceæ. Barnyard millet.

"No. 214. 1916 crop. Originally from Bakhmut."

57868 to 57881. ORYZA SATIVA L. Poaceæ. Rice.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received August 21, 1923. Quoted notes by S. Youngberg, acting director, Bureau of Agriculture.

"The following were grown at the Lamao Experiment Station, Lamao, Bataan."

57868. "(No. 2.) *Bincol I*. Tested eight years under upland conditions; matures usually in 140 days. Average yield per hectare 1,662 kilograms (approximately 1,480 pounds per acre)."

57869. "(No. 5.) *Calonod*. Tested seven years under upland conditions; matures usually in 143 days. Average yield per hectare 1,835 kilograms (approximately 1,635 pounds per acre)."

57870. "(No. 6.) *Pileng Baybay*. Tested one year under upland conditions; matures usually in 139 days. Average yield per hectare 1,780 kilograms (approximately 1,560 pounds per acre)."

57871. "(No. 14.) *Saguboy*. Tested one year under upland conditions; matures usually in 129 days. Average yield per hectare 1,000 kilograms (approximately 890 pounds per acre)."

57872. "(No. 11.) *Bonquet*. Tested six years under upland conditions; matures usually in 127 days. Average yield per hectare 2,062 kilograms (approximately 1,840 pounds per acre)."

57873. "(No. 10.) *Catalong*. Tested six years under upland conditions; matures usually in 141 days. Average yield per hectare 2,176 kilograms (approximately 1,940 pounds per acre)."

57874. "(No. 1.) *Inantipolo II*. Tested six years under upland conditions; matures usually in 137 days. Average yield per hectare 2,184 kilograms (approximately 1,950 pounds per acre)."

57875. "(No. 3.) *Kinastila IV*. Tested five years under upland conditions; matures usually in 129 days. Average yield per hectare 1,939 kilograms (approximately 1,730 pounds per acre)."

57876. "(No. 12.) *Himirang*. Tested six years under upland conditions; matures usually in 130 days. Average yield per hectare 3,496 kilograms (approximately 3,100 pounds per acre)."

57877. "(No. 4.) *Calibug*. Tested four years under upland conditions; matures usually in 133 days. Average yield per hectare 2,010 kilograms (approximately 1,800 pounds per acre)."

57878. "(No. 8.) *Casulig*. Tested three years under upland conditions; matures usually in 142 days. Average yield per hectare 1,714 kilograms (approximately 1,500 pounds per acre)."

57879. "(No. 13.) *Kinandang Kumpol*. Tested three years under upland conditions; matures usually in 132 days. Average yield per hectare 1,853 kilograms (approximately 1,650 pounds per acre)."

57868 to 57881—Continued.

57880. "(No. 7.) *Pinilling*. Tested three years under upland conditions; matures usually in 122 days. Average yield per hectare 1,314 kilograms (approximately 1,170 pounds per acre)."

57881. "(No. 9.) *Caponguit*."

57882 to 57890.

From Darjiling, India. Seeds presented by G. H. Cave, Curator, Lloyd Botanic Garden. Received August 21, 1923.

57882. *ACROCARPUS FRAXINIFOLIUS* Wight and Arn. *Casalpinaceae*.

A lofty tree, native to the eastern Himalayas at altitudes of 4,000 feet and less, used by the natives for making tea boxes and also for planking. The sapwood is white and the heartwood light red and moderately hard. (Adapted from Watt, *Dictionary of the Economic Products of India*, vol. 1, p. 102.)

57883. *AMERIMNON PINNATUM* (Lour.) Kuntze (*Dalbergia tamarindifolia* Roxb.). *Fabaceae*.

A climbing plant with leaves resembling those of the tamarind, found as high as 4,000 feet in the eastern Himalayas. The leaves are eaten by cattle. (Adapted from Watt, *Dictionary of the Economic Products of India*, vol. 3, p. 18.)

57884. *BERBERIS NAPAULENSIS* (DC.) Spreng. *Berberidaceae*.

A shrub or small tree, common in eastern India at altitudes above 3,000 feet. The wood is bright yellow and hard, and because of its hardness and handsome color it might be useful for inlaying. It is used to a small extent by the natives of India in making a yellow dye. (Adapted from Watt, *Dictionary of the Economic Products of India*, vol. 1, p. 446.)

For previous introduction, see S. P. I. No. 55672.

57885. *BUDDLEIA ASIATICA* Lour. *Loganiaceae*.

A very graceful evergreen shrub or small tree, common throughout India and the Malay Peninsula, with narrow leaves up to 8 inches in length. For three months in India the long slender racemes of white sweet-scented flowers fill the air with delightful fragrance. (Adapted from Curtis's *Botanical Magazine*, pl. 5323.)

For previous introduction, see S. P. I. No. 45064.

57886. *CHONEMORPHA MACROPHYLLA* (Roxb.) Don. *Apocynaceae*.

A large climber, native to Bengal and Burma, with milky sap from which a kind of casouhouc is obtained. (Adapted from Watt, *Dictionary of the Economic Products of India*, vol. 2, p. 271.)

57887. *EDGEWORTHIA GARDNERI* (Wall.) Meisn. *Thymelaeaceae*.

A handsome shrub whose branches are covered with dense clusters of yellow sweet-scented flowers before the leaves appear. The strong, tough fiber which is obtained from the long straight twigs seems very promising as paper-making material. (Adapted from Watt, *Dictionary of the Economic Products of India*, vol. 3, p. 392.)

For previous introduction, see S. P. I. No. 39642.

57888. *LEUCOSCEPTRUM CANTUM* J. E. Smith. *Mentaceae*.

A stout-branched densely hairy tree, commonly about 30 feet in height, with large narrowly ovate leaves, silvery hairy beneath and at times a foot long. The small white or pinkish flowers are in spikes. (Adapted from Hooker, *Flora of British India*, vol. 4, p. 706.)

For previous introduction, see S. P. I. No. 39646.

57889. *MACHILUS GAMBLEI* King. *Lauraceae*.

An evergreen tree, native to northern Bengal India, with thin leathery leaves, pale beneath

57882 to 57890—Continued.

silky flower clusters, and small globular fruits. (Adapted from Hooker, *Flora of British India*, vol. 5, p. 134.)

57890. *TETRASTIGMA BRACTEOLATUM* (Wall.) Planch. (*Vidia bracteolata* Wall.). *Vitaceae*.

A slender-branched shrub which has the habit of producing long runners. The greenish flowers are very small, and the round black fruits are the size of peas. Native to Bhutan and Assam, India. (Adapted from Hooker, *Flora of British India*, vol. 1, p. 654.)

For previous introduction, see S. P. I. No. 47811.

57891. (Undetermined.)

From Bluefields, Nicaragua. Seeds presented by Y. R. Heath, Moravian Mission. Received August 31, 1923.

"*Thiri*. The unripe fruits of this plant, in which no seeds have formed, may be boiled and eaten; they resemble the Irish potato in taste. But the fully formed seeds, such as I am sending, are better. When raw they taste somewhat peppery. They are boiled with ashes, after which the skin is easily rubbed off, and then they are reboiled in ordinary water. The *thiri* usually grows in swamps, although sometimes on dry land, but it prefers a rather swampy location. According to the Indians the root is hard and woody." Head.

57892 to 57911.

From Kashmir, India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received August 17, 1923. Quoted notes by Doctor Harlan.

57892 to 57895. *HORDEUM VULGARE PALLIDUM* Seringe. *Poaceae*. Six-rowed barley.

57892. "(No. 128. June 13, 1923.) A winter barley collected in a field near Brahmoala. Altitude about 3,300 feet."

57893. "(No. 141. June 14, 1923.) Head selections of winter barley from fields in Sonawar. Altitude about 5,400 feet."

57894. "(No. 151. Garden of Lalla Rukh, Manarbal, Kashmir. June 15, 1923.) Barley selected in a plot on one of the terraces beside the lake."

57895. "(No. 153. June 15, 1923.) Head selections from fields about Shadipur."

57896. "(No. 154. Shadipur. June 15, 1923.) Head selections from the field from which the rye of No. 152 [S. P. I. No. 57900] was secured."

57897. "(No. 158. June 17, 1923.) Head selections from fields about Ganderbal."

57898. "(No. 164a. Rambir Bagh vineyard. June 19, 1923.)"

57899. *MEDICAGO MINIMA* (L.) Grufberg. *Fabaceae*.

"(No. 157. Ganderbal. June 17, 1923.) Found growing plentifully on a dry mountain side."

57900. *SECALE CEREALE* L. *Poaceae*. Eye.

"(No. 152. Shadipur. June 15, 1923.) Spikes of rye from a field of barley. These are from the only rye plants I have seen in Kashmir. They were widely scattered and contain few seeds as a consequence. Apparently rye is not grown here."

57901 to 57909. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). *Poaceae*. Common wheat.

57901. "(No. 137. June 13, 1923.) This sample contains five or more types of wheat from a field near Uppi. Altitude about 5,000 feet."

57902. "(No. 139. June 14, 1923.) Head selections with white glumes from fields in Sonawar."

57892 to 57911—Continued.

57903. "(No. 140. June 14, 1923.) Head selections with red glumes from fields in Sonawar."

57904. "(No. 143. June 15, 1923.) Head selections made in fields at Sumbal."

57905. "(No. 155. June 17, 1923.) Head selections from fields near Ganderbal."

57906. "(No. 156. June 17, 1923.) Head selections in fields about Ganderbal."

57907. "(No. 163. Ranbir Bagh. June 19, 1923.) Head selections made from wheat grown between the rows of grapes."

57908. "(No. 164b. Ranbir Bagh vineyard. June 19, 1923.) Awnless white wheat."

57909. "(No. 165. Ranbir Bagh vineyard. June 19, 1923.) Selections of an awned red-chaffed wheat."

57910 and 57911. *TRITICUM DURUM* Desf. Poaceae. Durum wheat.

57910. "(No. 144. June 15, 1923.) Head selections made in a field near Sumbal."

57911. "(No. 166. Ranbir Bagh vineyard. June 19, 1923.) Selections of durum wheat from the same vineyard as No. 165 [S. P. I. No. 57909]."

57912 to 57929.

From Avondale, Auckland, New Zealand. Plants presented by H. R. Wright. Received August 13, 1923. Quoted notes by Mr. Wright.

57912 to 57918. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

57912. "Bennett's Perfection. A very late yellow freestone variety."

57913. "Early Gem. A very early variety with a splendid flavor; raised from the same parent as *Sunrise* [S. P. I. No. 57916]."

57914. "Golden Prolific. A yellow freestone variety of excellent flavor. Season medium."

57915. "Lord Kitcheners. A late yellow freestone variety of fine flavor."

57916. "Sunrise. A very early variety of splendid flavor. The tree is sturdy and a good cropper."

For previous introduction, see S. P. I. No. 55740.

57917. "Watt's Early. A seedling from *Flat China*, claimed by O. E. Vessey, of Australia, to be the earliest of all peach varieties."

For previous introduction, see S. P. I. No. 55741.

57918. "White Cling. A white clingstone variety, with very juicy fruits of excellent flavor."

For previous introduction, see S. P. I. No. 55742.

57919 to 57926. *PRUNUS* spp. Amygdalaceae.

57919 to 57921. *PRUNUS CERASIFERA* Ehrh. Cherry plum.

57919. "Anderson's Early. A glorified cherry plum about twice the size of the ordinary type. It is probably a cross between the cherry plum and the Japanese cherry."

57920 and 57921. "Palmer's Early. A yellow variety which we believe to be the earliest plum known. Because of its extreme earliness this plum should have great commercial possibilities."

57922. *PRUNUS DOMESTICA* L. Plum.

"Jenkin's Seedling. A European variety, very early, which bears large crops of fine-flavored fruits."

57912 to 57929—Continued.

57923. *PRUNUS SALICINA* Lindl.

Japanese plum.

"Early Blood. The earliest blood plum we have raised; it ripens before the cherry plum. The fruit is of good flavor but too soft for long shipment."

57924 to 57926. *PRUNUS SALICINA* × *CERASIFERA*. Hybrid plum.

57924. "Fuller's Seedling. A cherry plum and Satsuma cross. A red-fleshed cherry plum, splendid for cooking and for jam. Propagated easily from cuttings."

57925. "Ford's Early. A cross between the cherry plum and Japanese plum. A heavy cropper, ripening early. The flavor strongly suggests the Japanese plum."

For previous introduction, see S. P. I. No. 55716.

57926. "Norris Early. A cross between the cherry plum and Japanese plum. The crop is good and the season early."

57927. *PYRUS COMMUNIS* L. Malaceae. Pear.

"Ruby. A *Bon Chrétien* seedling raised in Victoria. The tree is a good bearer, resembling *Bon Chrétien* in growth, and the ripening season in Australia is the latter end of March. The fruit is medium to large and of splendid quality."

57928. *MALUS PRUNIFOLIA* (Willd.) Borkh. Malaceae. Apple.

Introduced for testing as a stock for cultivated apple varieties.

57929. *VITIS LABRUSCA* × *VINIFERA*. Vitaceae. Grape.

"Albany Surprise. A large-fruited sport of *Isabella*."

57930. *EPHEDRA ALTISSIMA* Desf. Gnetaceae.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received September 4, 1923.

"This is a strikingly ornamental climber, attractive at all times, but especially so when covered with its small red fruits." (*Proschowsky*.)

57931 to 57936.

From Montevideo, Uruguay. Seeds presented by the Director, Dirección General de Paseos Públicos. Received September 4, 1923.

57931. *CELTIS SELLOVIANA* Miquel. Ulmaceae.

A much-branched spiny shrub, native to southern Brazil, with narrow, membranous, light-green, sharp-pointed leaves less than an inch long and inconspicuous flowers. (Adapted from *Martius, Flora Brasiliensis*, vol. 4, pt. 1, p. 179.)

57932. *EUGENIA GLAUCESCENS* Cambess. Myrtaceae.

A large shrub, native to southern Brazil, with rather short, very narrow leaves up to 2½ inches in length and small white flowers borne singly in the axils of the leaves. (Adapted from *St. Hilaire, Flora Brasiliæ Meridionalis*, vol. 2, p. 368.)

For previous introduction, see S. P. I. No. 50392.

57933. *MANIHOT TWEDIEANA* Muell. Arg. Euphorbiaceae.

A wild Brazilian species from which the Indians are said to obtain edible varieties by cultivating the plants for a few years.

For previous introduction, see S. P. I. No. 48678.

57931 to 57936.—Continued.

57934. *POECILANTHE PARVIFLORA* Benth. Fabaceae.

The *lapachillo*, as it is called in its native home on the Uruguay River, is a tree of great beauty, with its finely divided leaves and small but dense clusters of pink flowers. The heartwood is dark brown, very hard, heavy, and durable. (Adapted from *Journal of the Linnean Society*, vol. 4, suppl., p. 80, and Lillo, *Contribución al Conocimiento de los Árboles de la Argentina*, p. 107.)

57935. *POMADERIS APETALA* Labill. Rhamnaceae.

A tree occasionally 60 feet in height, but usually smaller; native to southeastern Australia. The foliage is eaten readily by stock, often in preference to their customary feed. (Adapted from *Mueller, Select Extra-Tropical Plants*, p. 416.)

For previous introduction, see S. P. I. No. 48684.

57936. *PROSOPIS NANDUBEY* Lorentz. Mimosaecae.

A tree of moderate height which is common in the mountainous regions of Uruguay. The numerous small yellowish flowers appear in the spring, and the sickle-shaped pods inclose a pulp of acid flavor. Because of its great durability the wood is prized for industrial purposes. (Adapted from *Archealeta, Flora Uruguayana*, vol. 1, p. 419.)

For previous introduction, see S. P. I. No. 48685.

57937 and 57938. *MALUS SYLVESTRIS* Mill. (*Pyrus malus* L.). Malaceae.
Apple.

From Melbourne, Victoria, Australia. Presented by C. F. Cole, orchard supervisor, Department of Agriculture. Received September 6, 1923.

"*King Cole*. Fruit medium sized, roundish, inclined to oblate, pretty uniform in shape and size. Stem short, slender. Cavity rather deep, acute, symmetrical. Calyx small. A beautiful apple, highly colored and with a fine aroma. The apple gives evidence of being a good keeper and a good shipper. A specimen of this fruit forwarded by Mr. Cole in April reached us in good condition six weeks later although packed in an ordinary small wooden box. Other specimens forwarded July 13, 1923, reached us August 21 in excellent condition. If this variety proves resistant to woolly aphids, as claimed, it will prove a valuable acquisition to our apple collections." (B. T. Galloway.)

"This is a chance seedling supposed to be a cross between *Jonathan* and *Dutch Mynone*. The original seedling is still standing upon the property of R. G. Cole, orchardist, Lang Lang, Victoria, where the seed germinated. The producer first exhibited this apple at the fruit carnival held in the Exhibition Buildings, Melbourne, in 1912, and won the silver medal for a Victoria-raised seedling. The seedling was registered with the Royal Horticultural Society of Victoria under the name *R. G. Cole's Champion*. The writer submitted it under the name of *Cole's Champion* to the committee of the Australia Pomological Society, but owing likely to confusion the word *Champion* has been dropped and *Cole* accepted as the future name of this apple.

"The tree is very productive and a strong upright grower. The wood is dark, becoming reddish with age and lightly speckled with grey dots; the buds are moderately prominent; the foliage is medium sized and dark green. During the 1920 fruit season 22 cases of salable fruit were gathered from the original seedling tree. The flowers are not bold and are medium sized. The blossoming period is from the 12th to the 20th of October in Victoria.

"The apple, which has been tested under cool storage conditions, is a handsome dessert type of medium size, roundish conical, or tapering to the eye; the skin is thin and smooth; the ground clear pale yellow, splashed with lively red narrow broken stripes. The whole of the exposed surface is a light red, becoming deeper in color where exposed to the sun. The flesh is firm, white, crisp, juicy, sweet,

with a slightly perfumed aromatic flavor; the core is compact, the stalk thin and averaging three-quarters of an inch in length, inserted in a deep, rather fairly regular cavity. The calyx is small and closed; the segments pointed, slightly recurved, and set in a deep, rather narrow and corrugated basin. Its season in Victoria is April to September. It has been proved to be a very good keeper in cool storage and while stored it emits a strong aroma. It could be gathered in some districts about the middle of March. This variety is being largely planted, and it promises to become one of the best late apples introduced." (*Journal of the Department of Agriculture, Victoria*, p. 492.)

57937. Trees. Budded on *Northern Spy*.

57938. Budwood.

57939. *TRIFOLIUM PRATENSE* L. Fabaceae.
Red clover.

From Ayr, Scotland. Seeds presented by McGill & Smith. Received September 8, 1923.

"A very hardy and permanent strain of wild red clover with which we are experimenting. It grows slightly the first year and by the third year produces quite a lot of foliage." (McGill.)

Introduced for department agronomists.

57940. *NYPA FRUTICANS* Wurmbe. Phœnicaceae.
Nipa palm.

From Lamaso, Philippine Islands. Seeds presented by H. H. Boyle, of the Columbian Rope Co., Manila, through the Bureau of Agriculture, Manila. Received September 6, 1923.

From an economic standpoint this palm is one of the most important in the Philippines. It occurs along tidal streams throughout the archipelago and thrives only in brackish swamps. The "*nipa*," as it is called, has a stout, creeping, underground stem, and the pinnate leaves, which are in erect clusters, are 7 meters (23 feet) or more in length. The flat fruits, 5 inches long, 4 inches wide, and 2 inches thick, are crowded in a large, round head which is borne on a special, erect stalk. The juice obtained by cutting this stalk just below the fruiting head is a very promising source of sugar and alcohol. Probably 85 per cent of the 3,000,000 gallons of proof alcohol produced annually in the Philippines comes from the "*nipa*" palm. The leaves of this palm are extensively used for thatching and for making baskets and mats, and the immature seeds are boiled in sugar to form a confection. The tree is also a pleasing ornamental. (Adapted from *Brown and Merrill, Philippine Palms and Palm Products*, p. 98.)

57941 and 57942.

From Barberton, Transvaal. Seeds presented by George Thorncroft. Received September 8, 1923. Quoted notes by Mr. Thorncroft.

57941. *NATHUSIA* sp. (*Schrebera* sp.) Oleaceae.

"A tree about 20 feet high with sweet-scented flowers resembling those of the jasmine."

57942. *WATSONIA FLAVIDA* Bolus. Iridaceae.

"This is very closely allied to the *gladiolus*, but the flowers are smaller and creamy white. It grows on stony hills in this region at an altitude of 4,000 feet."

57943. *HEVEA BRASILIENSIS* (H. B. K.) Muell. Arg. Euphorbiaceae.

From Dominica, British West Indies. Seeds presented by the Botanic Garden. Received September 13, 1923.

"The Para rubber tree (*Hevea brasiliensis*), native to Brazil and now extensively cultivated in the East Indies, has always ranked as the principal and most important rubber-producing tree of the world

"In 1922 the world's production of rubber amounted to 379,200 tons, of which 354,980 tons, or '93 per cent of the world's output, came from this source.

"In connection with the investigations now being undertaken by the department for the development of the rubber industry in the Western Hemisphere, this important plant will receive the attention it deserves with a view to establishing plantations in Porto Rico and other tropical dependencies of the United States." (*Alfred Keys.*)

57944 to 58012.

From Kashmir, India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received August 28 and September 6, 1923. Quoted notes by Doctor Harlan.

"(Nos. 205 to 358. Lyallpur. July 16, 1923.) Secured from the botanical section of the Lyallpur Agricultural College. The barleys and wheats are pure lines descendant from single plants."

57944. *CROTALARIA JUNCEA* L. Fabaceæ.
Sunn hemp.

"(No. 237.) Used as a fiber plant and for green manure."

57945. *ERUCA SATIVA* Hill. Brassicaceæ.
Roquette.
"(No. 232.) A cruciferous weed which grows wild in the drier parts of the Punjab. Sixty thousand tons of seeds are collected annually for the extraction of oil."

57946 to 57965. *HORDEUM* spp. Poaceæ.

57946 to 57948. *HORDEUM VULGARE COELESTE* L.
Six-rowed barley.

57946. "(No. 146. June 15, 1923.) Head selections made in a field near Sumbal. Probably fall seeded."

57947. "(No. 167. June 24, 1923.) From the highest terraces on the west side of the Sind Valley. Altitude between 6,500 and 6,700 feet. Only the upper terraces were planted to this variety."

57948. "(No. 216.) *Gujar Khan.*"

57949 to 57963. *HORDEUM VULGARE PALLIDUM* Seringe.
Six-rowed barley.

57949. "(No. 145. June 15, 1923.) Head selections made near Sumbal."

57950. "(No. 147. June 14, 1923.) Spikes selected in a field in Samwar near Srinagar."

57951. "(No. 168. Mountain side, Sind Valley. June 24, 1923.) Barley grown at a slightly lower altitude than No. 167 [S. P. I. No. 57947]."

57952. "(No. 183. June 24, 1923.) Barley from a bench on the south side of the Sind Valley."

57953. "(No. 205.) *Rewari.* Originally from Rewari."

57954. "(No. 206.) *Lyallpur.* This is the standard or cheek variety used in the tests at Lyallpur."

57955. "(No. 207.) *Mianwali.* From a town of that name."

57956. "(No. 208.) *Multan.* From a town of that name."

57957. "(No. 209.) *Giyarkhan.* Originally from a nonirrigated district near Rawalpindi."

57958. "(No. 210.) *Hoshiarpur.* From a non-irrigated area."

57959. "(No. 211.) *Lyallpur.* A new selection of dense 6-rowed barley."

57960. "(No. 212.) *Ludhiana*"

57944 to 58012—Continued.

57961. "(No. 213.) *Baluchistan.* From near Quetta."

57962. "(No. 214.) *Nushera.* A good brewing barley."

57963. "(No. 215.) *Gujrat.* From a district of that name in the Punjab."

57964. *HORDEUM DISTICHON NUDUM* L.
Naked barley.

"(No. 217.) *Black barley* from Lyallpur. Two-rowed naked purple."

57965. *HORDEUM VULGARE COELESTE* L.
Six-rowed barley.

"(No. 218.) *Kulu.* A short-awned naked barley from the Kangro Valley."

57966. *LATHYRUS SATIVUS* L. Fabaceæ.
Bittervetch.

"(No. 236.) Found wild and under cultivation."

57967. *LOTUS CORNICULATUS* L. Fabaceæ.

"(No. 162. Raipur. June 18, 1923.) A yellow-flowered low-growing legume growing spontaneously in an orchard."

57968 to 57976. *MEDICAGO* spp. Fabaceæ.

57968. *MEDICAGO HISPIDA APICULATA* (Willd.) Urban.
Bur clover.

"(No. 233.) This legume grows wild in many places in the Punjab. Once established it comes up as a secondary growth in wheat."

57969 and 57970. *MEDICAGO LUPULINA* L.
Black medick.

57969. "(No. 149. June 15, 1923.) A low-growing legume from the orchard in the old garden of Lalla Rukh at Manarbal, Kashmir. Not cultivated."

57970. "(Nos. 188 to 190. Votler. June 26, 1923.) This is a form with branches 4 to 5 feet long."

57971 to 57976. *MEDICAGO SATIVA* L. Alfalfa.

57971 and 57972. "(Nos. 169 and 170. Nacimbagh. June 23, 1923.) Alfalfa was found growing in nonirrigated wheat fields where it had never been seeded as far as the peasants knew. I have seen no cultivated alfalfa in Kashmir. Both samples are immature, but some seed may grow. They were the ripest obtainable. Altitude 5,400 feet, rainfall 20 inches, winter mild."

57971. No. 169. 57972. No. 170.

57973. "(No. 195. Aishmakan. July 1, 1923.) Seeds of several plants found growing in a wheat field. No cultivated alfalfa in this region."

57974. "(No. 196. Aishmakan. July 1, 1923.) Seeds of a different type, later than No. 195 [S. P. I. No. 57973]."

57975. "(No. 197. Aishmakan. July 1, 1923.) Seeds of a single plant later than Nos. 195 and 196 [S. P. I. Nos. 57973 and 57974]. Probably too immature to grow."

57976. "(No. 235.) A local strain."

57977. *MELILOTUS ALBA* Desr. Fabaceæ.
White sweetclover.

"(No. 187. Votler. June 26, 1923.) This seed is immature and may not germinate, but it was the largest on the plants. This is the white-flowered tall sort."

57978. *MELILOTUS INDICA* (L.) All. Fabaceæ.
Sweetclover.

"(No. 238.) Occurs as a weed in many places in the Punjab."

57944 to 58012—Continued.

57979. *TRIFOLIUM PRATENSE* L. Fabaceæ.
Red clover.

"(No. 161. Raipur. June 18, 1923.) Apparently ordinary red clover but not cultivated."

57990. *TRIFOLIUM REPENS* L. Fabaceæ.
White clover.

"(No. 150. June 15, 1923.) From the orchard in the old garden of Lalla Rukh at Manarbal, Kashmir. Apparently ordinary white clover."

57981. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceæ.
Fenugreek.

"(No. 234.) Used for fodder and green manure. Does not look as vigorous here as in Tunisia."

57982 to 58009. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ.
Common wheat.

57982. "(No. 148. Simla. June 7, 1923.) Spikes from a threshing floor."

57983. "(No. 160. Raipur. June 18, 1923.) Selections made in fields about Raipur."

57984. "(No. 171. Nacimbagh. June 23, 1923.) Head selections of wheat that seemed to differ from the rest of the field."

57985 and 57986. "(Nos. 172 and 173. Nacimbagh. June 23, 1923.) Variations of two types of wheat."

57985. No. 172. 57986. No. 173.

57987. "(No. 174. Sind Valley. June 24, 1923.) Three spikes of wheat found growing in No. 168 [S. P. I. No. 57951]."

57988 to 57995. "(Nos. 175 to 177, 179, 180, and 182. June 24, 1923.) Wheat types on bench on south side of the Sind Valley."

57988. No. 175. 57992. No. 180.

57989. No. 176. 57993. No. 182.

57990. No. 177. 57994. No. 184.

57991. No. 179. 57995. No. 185.

57996. "(No. 186. Ganderbol. June, 1923.) Consists of a single spike, but no others of this type were found in the immediate locality of this specimen."

57997. "(No. 219.) *Wheat 17 B*. A selection not yet distributed. A red wheat of good milling and baking quality."

57998. "(No. 220.) *Type XI wheat*. Has done well in the colony. Profitable for export but poor for milling and baking."

57999. "(No. 221.) *Lyallpur 8 A wheat*. Good on both dry and irrigable lands. A good milling wheat."

58000. "(No. 222.) *Lyallpur 8 wheat*. Similar to No. 221 [S. P. I. No. 57999]."

58001. "(No. 223.) *Lyallpur 16 A wheat*. Likely to do well in a dry area."

58002. "(No. 224.) *Lyallpur 17 wheat*. Try in a dry area."

58003. "(No. 225.) *Lyallpur No. 14 wheat*. A typical dry-area wheat."

58004. "(No. 226.) *Lyallpur No. 9 wheat*. This is the check or standard variety at Lyallpur. Good for milling and baking."

58005. "(No. 227.) *Lyallpur No. 15 wheat*. A dry-land variety."

58006. "(No. 228.) *Lyallpur 9 C wheat*. A selection from No. 9 wheat [S. P. I. No. 58004]."

58007. "(No. 229.) *Lyallpur Cron III wheat*. A hybrid selection which has done well."

57944 to 58012—Continued.

58008. "(No. 230.) *Lyallpur Cron II wheat*. The same as No. 229 [S. P. I. No. 58007]."

58009. "(No. 231.) *Lyallpur Cron C 121 wheat*. A hybrid resistant to yellow rust."

58010 to 58012. *TRITICUM DURUM* Desf. Poaceæ.
Durum wheat.

58010. "(No. 159. Raipur. June 18, 1923.) Selections from the only field of pure durum wheat I have seen so far in Kashmir."

58011. "(No. 178. June 24, 1923.) A type on bench on the south side of Sind Valley."

58012. "(No. 181. June 24, 1923.) A type on bench on the south side of Sind Valley."

58013 and 58014.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received September 10, 1923. Quoted notes by Mr. Rock.

58013. *PRUNUS MAJESTICA* Koehne. Amygdalaceæ.

"(No. 8793. Talifu. June 30, 1923.) Var. *talienensis*. Seeds from the same trees as that collected in April, 1922 [S. P. I. No. 55498]. This is a very vigorous and healthy early-fruited wild cherry, which grows at an altitude of about 8,000 feet."

58014. *ZEA MAYS* L. Poaceæ. Corn.

"(No. 8795. Taku. June, 1923.) This variety is cultivated on the plateau of Taku, by Nashi (Moso) tribesmen, and, next to wheat, is one of their most important crops. The plants are 8 to 10 feet high, and the ears are large and uniformly yellow."

58015. *MEDICAGO FALCATA* L. Fabaceæ.
Alfalfa.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Numbered July, 1923.

"No. 841. 1919 crop." (Borodin.)

Introduced for department agronomists.

58016. *FLACOURTIA INDICA* (Burm. f.) Merr. (*F. ramontchi* L'Herit.). Flacourtiaceæ.
Ramontchi.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received July 31, 1923.

A shrub or small tree, armed with scattered slender spines, native to many parts of the Philippine Islands. The white flowers are borne singly or in pairs in the leaf axils or at the ends of short branchlets. The rounded dark-purple fleshy fruits are nearly half an inch in diameter and contain edible fleshy pulp of an agreeable flavor. (Adapted from *Brown, Wild Food Plants of the Philippines*, p. 126.)

For previous introduction, see S. P. I. No. 53576.

58017. *VIGNA SINENSIS* (Torner) Savi. Fabaceæ.
Cowpea.

From Port of Spain, Trinidad, British West Indies. Seeds presented by R. D. Rands, Bureau of Plant Industry. Received August 1, 1923.

"*Frijoles ballos*. This variety was obtained from the public market in Caracas, Venezuela." (Rands.)

Introduced for department pathologists studying bean diseases.

58018. ATTALEA sp. Phœnicaceæ.
Palm.

From Tepic, Nayarit, Mexico. Seeds presented by M. Bandala, Agrónomo Regional, Dirección General de Agricultura. Received August 17, 1923.

A genus of tropical American palms, some members of which produce valuable oil-yielding fruits, while others are prized for the fiber obtained from the leaves and leafstalks. All are of great ornamental value because of their long graceful pinnate leaves.

58019. PERSEA AMERICANA Mill.
(*P. gratissima* Gaertn. f.). Lauraceæ.

Avocado.

From Caracas, Venezuela. Seeds presented by H. Pittier. Received September 12, 1923.

"The fruits from which these seeds were taken were obtained from a peddler here in Caracas. They are pear shaped, of uniform size, about 4 inches long and 2 inches in diameter. The rather tough skin is light yellow, and the flesh, rather well developed in proportion to the seed, has a peculiar but agreeable flavor." (*Pittier*.)

58020. STRYCHNOS GILLETII Wildem.
Loganiaceæ.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received September 12, 1923.

"The fruits of this species are edible." (*Gillet*.)

A spiny shrub, related to the Kafir orange (*Strychnos spinosa*) which grows wild in thickets in the Belgian Congo. The leathery shining leaves are oblong-oval, deeply notched at the apex, and the fruits are about 2 inches in diameter. (Adapted from *Annales du Musée du Congo, sér. 5, vol. 1, p. 176.*)

58021. POPULUS sp. Salicaceæ.
Poplar.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received September 17, 1923.

"(No. 9501. June, 1923.) A large and handsome tree 60 to 80 feet tall with a trunk 2 to 3 feet in diameter growing at the foot of Kintzu Shan along streams at an altitude of 8,500 feet. The very large dark-green heart-shaped leaves are silvery beneath, and the branches are straight and ascending." (*Rock*.)

58022. LAPAGERIA ROSEA Ruiz and Pav.
Liliaceæ.

From Valparaiso, Chile. Seeds presented by F. L. Crouse, Instituto Agrícola Bunster, Angol, through C. F. Deichman, American consul general, Valparaiso. Received September 4, 1923.

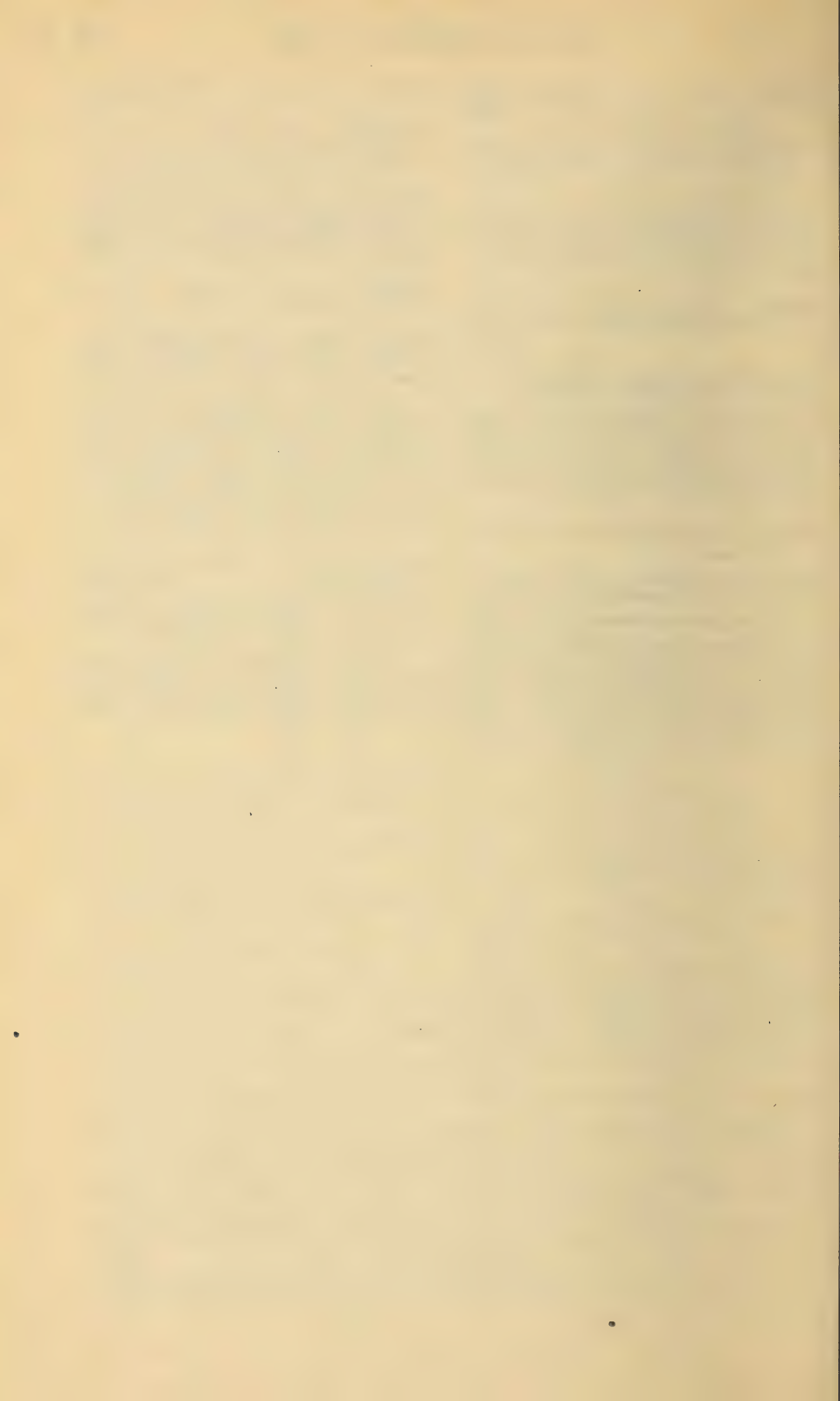
"*Copihue*. This, the national flower of Chile, has been occasionally grown in northern greenhouses, where it creates a genuine sensation when in bloom. It is a climbing plant of slow growth, with slender wiry stems and bright-crimson tubular flowers about 3 inches in length. In southern Chile huge bunches of these blossoms are brought to the railway stations and sold to passing travelers. The plant requires an acid soil." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 54621.

58023. PRUNUS TOMENTOSA Thunb.
Amygdalaceæ. Bush cherry.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received September 17, 1923.

"(No. 8794. Tschchung. June, 1923.) A shrub about 4 feet high, found in the mountains on the upper Mekong at an altitude of about 10,000 feet. The oval, serrate leaves are densely hairy beneath and the short-stalked fruits also are hairy." (*Rock*.)



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UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 77



Washington, D. C.

Issued August, 1926

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM OCTOBER 1 TO DECEMBER 31, 1923 (S. P. I. NOS. 58024 TO 58454)

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INTRODUCTORY STATEMENT

The introduction of hardy plant material from northeastern Asia has long been one of the main objects of the Office of Foreign Plant Introduction of the Bureau of Plant Industry.

Disturbed political conditions since the outbreak of the Great War have made it impracticable to send agricultural explorers into that region, else the work in Siberia, Mongolia, and Turkestan, which was commenced by Frank N. Meyer in 1909, would have been pursued with vigor. It therefore is with great satisfaction that announcement is made that Prof. T. D. A. Cockerell, of the University of Colorado, has sent to this office a large collection of seeds obtained by him during a recent journey through parts of southeastern Siberia. These seeds, which are listed in this inventory under Nos. 58153 to 58357, represent numerous varieties of oats, buckwheat, barley, flax, proso, rye, timothy, wheat, soy beans, corn, and other field crops, as well as a few vegetables. They have been distributed to specialists of the department for preliminary testing.

H. V. Harlan, of the Office of Cereal Crops and Diseases, Bureau of Plant Industry, who left Washington early in 1923 to study barley and other cereal crops in the Mediterranean region, India, and Abyssinia, sent from Spain a collection of seeds, including 8 varieties of oats (*Avena sativa*; Nos. 58042 to 58049), 19 of barley (*Hordeum vulgare pallidum*; Nos. 58050 to 58068), and 12 of wheat (*Triticum aestivum*; Nos. 58074 to 58085).

For use in connection with studies of the host plants of wheat rust which the department is conducting, a large number of species and varieties of Berberis have been assembled from time to time. The present inventory records a number of additions, including 3 from Rochester, N. Y. (Nos. 58088 to 58090), 34 from the Arnold Arboretum at Jamaica Plain, Mass. (Nos. 58093 to 58126), 3 from the Botanic Gardens at Glasnevin, Ireland (Nos. 58131 to 58133), and 8 from the Royal Botanic Gardens at Kew, England (Nos. 58136 to 58143).

J. F. Rock's travels in the remote Province of Yunnan, China, continue to yield interesting plants. Among his introductions listed in this inventory some of the most promising seem to be the white-flowered *Prunus* (No. 58040), the wild apple from Likiang (*Malus* sp.; No. 58087), and nine species of *Primula* (Nos. 58368, 58375, 58398 to 58402, 58405, and 58426). His new *Castanopsis*

(*C. delavayi*; No. 58394) is described as one of the finest and hardest timber trees of its region, and it bears in addition a sweet edible nut.

The Chilean strawberry (*Fragaria chiloensis*; No. 58024), of which several earlier introductions have been made by this office, is proving of much interest to plant breeders in the United States, who are using it to cross with North American strawberries in the hope of producing new forms having their excellent color and flavor combined with the firm texture of the Chilean berry.

Agati tomentosa (No. 58377), received from the Hawaiian Islands through C. S. Judd, should be especially interesting for trial in the Southern States where *Sesbania macrocarpa* succeeds. If it is as palatable to stock as Mr. Judd's note indicates and should prove as resistant to nematodes as is *S. macrocarpa* in the South, it may prove to be quite worth while.

An unusually large number of promising tropical fruits have been received during the period covered by this inventory. The marang (*Artocarpus odoratissima*; No. 58025), which P. J. Wester considers a fruit of unusual promise, has again been introduced for trial in the American Tropics. A new lot of mango-steen seeds (*Garcinia mangostana*; No. 58027), supplied through Vilmorin-Andrieux & Co., of Paris, will be used to provide plants for establishing small orchards of this excellent fruit in the Canal Zone and other parts of tropical America where a few scattered tests have shown that it can be cultivated with success. The ilama of Mexico (*Annona diversifolia*) has fruited at the United States Plant Introduction Garden, Miami, Fla., from seeds introduced by this office several years ago. Its behavior indicates that it may prove a valuable acquisition for southern Florida; plants grown from the seed presented by Dr. C. A. Purpus (Nos. 58030 and 58408) will therefore be used to test this species further in the warmest parts of that State. Mango growers in Florida and the American Tropics generally should devote special attention to the Carabao variety (*Mangifera indica*; No. 58031), which has proved to be a more dependable bearer than most of the Indian sorts at the Miami garden and is at the same time a fruit of excellent quality. The wild avocado of Costa Rica, which may possibly be an ancestor of some of the cultivated avocados, was originally introduced by this office in 1920 for trial as a stock on which to graft the cultivated plants. Though preliminary tests indicate that it may not prove suitable for this purpose, it has seemed advisable to procure an additional lot of seed (*Persea americana*; No. 58365) in order to test the matter thoroughly. The Winslowson avocado (*Persea americana*; No. 58444), a seedling grown at the garden at Miami, has been planted commercially in a number of Florida orchards, where it is proving valuable because of its vigor, its productiveness, its late season of ripening, and the good quality of its fruit. The langsat (*Lansium domesticum*; No. 58382) is probably too tropical in its requirements for cultivation anywhere in the continental United States, but it should succeed in the Canal Zone, Porto Rico, and elsewhere in the American Tropics.

The director of the Royal Botanic Gardens, Kew, England, has sent a number of promising ornamental plants, including seven Cotoneasters (Nos. 58145 to 58151), one Cornus (No. 58144), and one Hydrangea (No. 58152). The American consul at Teheran, Persia, has sent seeds of the best Persian tobacco (*Nicotiana tabacum*; No. 58029). A variety of sugar cane (*Saccharum officinarum*), considered by the director of the Insular Experiment Station, Porto Rico, the most valuable seedling at present planted on the island, is represented by No. 58034. S. K. Mitra, economic botanist to the Government of Assam, sends a broomcorn mutant (*Holcus sorghum*; No. 58129) which will be tested in this country with interest. *Eremochloa ophiuroides* (No. 58389) is being tried as a lawn grass. Tests with earlier introductions of this grass have shown that it is suited for this purpose in Florida and the Gulf coast area of the Southern States. Varietal differences have been observed and further introductions may give better adapted or more valuable strains. A valuable strain of *Lespedeza striata* (No. 58397), originally collected by J. B. Norton in 1919 near Kobe, Japan, has been numbered, so that its history will become a matter of record. Its strong-growing quality makes it superior to common lespedeza.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND McKEE,

Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., January 7, 1926.

INVENTORY¹

58024. FRAGARIA CHILOENSIS (L.)

Duchesne. Rosaceae.

Chilean strawberry.

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, Department of Botany and Forestry, Experiment Station of the Sugar Planters' Association. Received October 1, 1923

Seeds sent to Doctor Lyon from Ecuador by. Francis X. Williams.

Although the fruit of the Chilean strawberry is inferior in flavor to that of our best cultivated strawberries, it is remarkable for its excellent shipping and keeping qualities, and it seems that varieties might be produced by selection that would merit cultivation on a commercial scale. The berry is much used for canning and preserving and is also eaten fresh. The ripening season of *Fragaria chiloensis* in the highlands of southern Peru and central Chile extends approximately from the latter part of October to January.

For previous introduction see S. P. I. No. 56023.

58025. ARTOCARPUS ODORATISSIMA

Blanco. Moraceae.

Marang.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received October 3, 1923.

The marang has been brought recently to the attention of horticulturists by P. J. Wester, who considers it a fruit of unusual promise. It resembles the jack fruit and the seeded breadfruit in appearance but is superior in quality to either of these. The tree, which grows wild in the southern Philippine Islands and the Sulu Archipelago, is medium sized, with large dark-green entire or 3-lobed leaves 18 to 24 inches long. Wester (Food Plants of the Philippines, ed. 3, p. 129) describes the fruit as roundish oblong in form, about 5 inches in length, with the surface thickly studded with soft greenish yellow spines one-third of an inch long. The rind is thick and fleshy, the flesh white, sweet, juicy, aromatic, and of pleasant flavor; it is separated into segments (about the size of a grape) which cling to the core, and each segment contains a whitish seed nearly half an inch long. When the fruit is ripe, by passing a knife around and through the rind, with a little care the halves may be separated from the flesh, leaving this like a bunch of white grapes. In the Philippines it ripens in August.

The tree is strictly tropical in its requirements and probably will not succeed in regions where the temperature falls below 32° to 35° F. It likes a moist atmosphere and abundant rainfall.

For previous introduction see S. P. I. No. 46635.

58026. CUCUMIS MELO L. Cucurbitaceae. Melon.

From Bareilly, United Provinces, India. Seeds presented by Rev. N. L. Rockey. Received October 3, 1923.

Seeds of a melon bought in Alighur but evidently imported from the borders of Afghanistan or Baluchistan. The native name is *Zarda*. The fruit was yellowish green, weighed 5½ pounds, and the flesh was 1¾ inches thick. (Rockey.)

The culture of the superior kinds of melon requires considerable attention, but there is hardly a fruit that better deserves it. The kind which ranks as finest of all, called the Surdah, is a native of Kabul and has not, that I am aware, been cultivated with success in any part of India. The fruits are brought occasionally to the Punjab for the wealthy natives, and a friend told me that when at Mooltan an offer of 6 rupees which he made for a single one was refused, so highly are they prized. I have several times raised plants in my garden at Firzpur. They thrived moderately well but bore only one or two fruits, which always rotted on the under side before beginning to ripen. From a portion of one which remained partially sound I was enabled to discover how delicious this fruit must be when raised in perfection. The seeds of this kind are at once to be distinguished from those of any other, being fully four times larger. (*Firminger's Manual of Gardening*, ed. 5, p. 225.)

58027. GARCINIA MANGOSTANA L. Clusiaceae. Mangosteen.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received October 4, 1923.

For more than 20 years the Office of Foreign Plant Introduction has been interested in the establishment of the Asiatic mangosteen, reputed to be the "queen of fruits," in the tropical American dependencies of the United States. It was believed for many years that the mangosteen could not be made to bear fruit outside of the Asiatic tropics. There is now a fruiting orchard of more than a dozen trees on the island of Dominica in the West Indies and another of nearly the same size near Guayaquil, Ecuador. Fruit has also been produced in Trinidad, Jamaica, and the Hawaiian Islands. It is evident therefore that when given the proper conditions of climate and soil and appropriate cultural treatment the mangosteen can be grown successfully in many regions. The seeds of this fruit are among the most difficult in the world to transport long distances. In 1922 it was found that seed obtained through Vilmorin-Andrieux & Co., of Paris, reached Washington in better condition than any which had been received previously from any source.

For previous introduction see S. P. I. No. 56822

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in, so that definite identification can be made.

58028. HYPHAENE CRINITA Gaertn.
Phœnicaceæ. Palm.

From Pretoria, Union of South Africa. Seeds presented by C. P. Lounsbury, Chief, Division of Entomology. Received October 4, 1923.

A South African fan palm which in some sections of its native country reaches a height of 30 feet. The leaves are used by the natives to make matting, basketware, and rope. From the sap, obtained by tapping the trunk, a native beverage is prepared. (Adapted from Marloth, *Flora of South Africa*, vol. 4, p. 50.)

58029. NICOTIANA TABACUM L. Solanaceæ. Tobacco.

From Teheran, Persia. Seeds presented through Bernard Gottlieb, American consul. Received October 4, 1923.

Seeds of the finest grade of the Persian tobacco variety known as *Shiraz Tumbac*. (Gottlieb.)

Introduced for tobacco specialists.

58030. ANNONA DIVERSIFOLIA Safford.
Annonaceæ. Ilama.

From Chiapas, Mexico. Seeds presented by Dr. C. A. Purpus, Zacuapan, Huatusco, Vera Cruz. Received October 6, 1923.

It is now several years since the Office of Foreign Plant Introduction undertook an investigation of this little-known relative of the cherimoya and decided that it is a species worthy of wide cultivation in the Tropics. In these few years several thousand seedlings have been distributed, not alone in America but also in southern Asia and elsewhere. A young tree growing in the United States Plant Introduction Garden at Miami, Fla., came into bearing in 1923. So far as known, this is the first time ilamas have been produced in the United States. The tree has always been very limited in its distribution. It is native to southern Mexico, Guatemala, and Salvador, where it is found usually in foothill regions at elevations not greater than 2,000 feet. In some parts of Mexico it is called "ilama," in Chiapas "papauca," and in Guatemala and Salvador "anona blanca."

The climatic requirements of this tree are similar to those of the sugar-apple and the custard-apple. It will withstand light frost and often grows in regions where the rainfall is light. Seedling trees come into bearing when 4 or 5 years old. The species is not as robust as the cherimoya, rarely reaching more than 20 feet in height and being of somewhat slender growth. The fruit is conical, oval, or round, and weighs from half a pound to a pound or more. The surface is rough, with the carpellary areas indicated by deeply incised lines. The color varies from pale green to magenta pink, overspread with a whitish bloom, whence the common name "anona blanca," or "white anona." In pale-green varieties the flesh is pure white; in pink kinds it is tinged with that color. The flavor is similar to that of the sugar-apple but with more acid. The seeds are about as numerous as in the cherimoya but slightly larger than those of the latter.

58031. MANGIFERA INDICA L. Anacardiaceæ. Mango.

From Manila, Philippine Islands. Budwood presented by Adn. Hernandez, director, Bureau of Agriculture. Received October 6, 1923.

"Carabao." Average weight 230 grams; form oblong, asymmetrical, with full cheeks; ventral shoulder usually prominent; dorsal shoulder short; stem inserted squarely or obliquely; base rounded; beak rather indistinct and variable, sometimes coinciding with apex; nak about 15 to 25 millimeters above apex, usually not prominent; surface smooth; color yellowish tinged with green; lentils light yellow, usually sparse at basal end of fruit, abundant on apical portion; skin medium thin, tough; flesh yellowish, paler than the *Pico*,

very tender and melting; flavor very delicate, aromatic, and spicy; fiber medium coarse, short, confined almost entirely to edges of seed; seed oblong, medium large; polyembryonic. The similarities in the fruit and trees of the *Carabao* and the *Cambodiana*, introduced into Florida from Saigon, Cochín China, are so many and great that the two types would seem to have a common parentage or to have sprung one from the other; this fact perhaps may also indicate the original home of the *Carabao* mango.

"The tree is of vigorous growth, with fruit mostly ripening from the latter part of May through June and the early part of July; by smoking the trees (the physiological effect of which is not quite understood) and by chopping the bark of the trunk the Filipinos force the trees to bear fruit early in March, but this fruit is not so well flavored as that produced later. In some sections a few mangos are found in the markets during nearly all the months of the year." (P. J. Wester, *Bulletin No. 18, Bureau of Agriculture, Manila*, pp. 23 and 24.)

58032. STRYCHNOS SUBEROSA Wildem.
Loganiaceæ.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received October 1, 1923.

The fruit of this species is edible. (Gillet.)

A spiny shrub or small tree, with oval leathery dull-green leaves. It is very similar to *Strychnos gillettii* [S. P. I. No. 58020]. (Adapted from *Annales du Musée du Congo*, ser. 5, vol. 1, p. 177.)

58033. AVENA STERILIS L. Poaceæ. Oats.

From Lincoln, New Zealand. Seeds presented by Dr. F. W. Hilgendorf, biologist, Canterbury Agricultural College. Received October 10, 1923.

"*College Algerians*. This strain, also known as *A 86*, is characterized by high tillering power, a creeping habit, quick recovery after feeding off, and a high yield. Under our conditions of climate and soil it has yielded about 10 bushels per acre more than commercial varieties sown under the same conditions." (*New Zealand Journal of Agriculture*, vol. 26, p. 147.)

58034. SACCHARUM OFFICINARUM L. Poaceæ. Sugar cane.

From Rio Piedras, Porto Rico. Cuttings presented by R. Menendez Ramos, director, Insular Experiment Station. Received October 10, 1923.

B. H. 10 (12). This Barbados hybrid is, in my opinion, the most valuable cane seedling at present planted on this island. It is a vigorous cane, giving high tonnage in a variety of soils; it is a heavy stooler and good in ratoon crops. At this station it has yielded as high as 22 per cent sucrose in crusher juice at the age of 13 months. It is tolerant to both mosaic and gumming diseases. (Ramos.)

58035. HIBISCUS ROSA-SINENSIS L. Malvaceæ.

From Manila, Philippine Islands. Cuttings presented by Adn. Hernandez, director, Bureau of Agriculture. Received October 17, 1923.

The Chinese Hibiscus is an exceedingly popular ornamental plant in southern Florida, where the single scarlet variety is practically the only one which has been commonly planted up to this time. The department has undertaken to introduce the best forms from other parts of the world, in the hope of diversifying somewhat the ornamental plantings of Florida gardens. The scarlet variety, though a handsome and useful plant, is in danger of becoming monotonous. An excellent collection of new varieties has recently been introduced from the Hawaiian Islands, where much has been done to improve this genus by breeding.

58036. KENNEDIA RUBICUNDA
(Schneev.) Vent. Fabaceæ.

From Richmond, Victoria. Seeds presented by F. H. Baker. Received October 11, 1923.

A very attractive twining shrub, sometimes 5 or 6 feet in length, with dark-green oval leaflets 3 to 4 inches long and numerous large showy dark-red flowers which occur in pairs in the leaf axils. This species is native to New South Wales. (Adapted from Sulman, F., *Wild Flowers of New South Wales*, p. 130.)

For previous introduction see S. P. I. No. 49487.

58037. PENNISETUM SETOSUM
(Swartz) L. Rich. Poaceæ. Grass.

From Entebbe, Uganda, Africa. Seeds presented by T. D. Maitland, botanist, Botanic Gardens. Received November 9, 1923.

A robust perennial grass, 2 to 4 feet high, distributed through the Tropics of both hemispheres and often used for forage.

Introduced for forage-crop specialists.

58038. CICER ARIETINUM L. Faba-
ceæ. Chick-pea.

From Guadalajara, Mexico. Seeds presented by Frank S. Furnivall, horticulturist, through Anthony Sherman, American vice consul in charge. Received October 17, 1923.

Seeds of a small-seeded chick-pea from Jalisco, introduced for forage-crop specialists.

58039 and 58040.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received October 19, 1923. Notes by Mr. Rock.

58039. MAPPIA sp. Icacinaceæ.

(No. 8711. Tschchung. August, 1923.) A tree 25 feet high which grows on the banks of the Mekong in a region having a rather warm climate. When in flower the tree is very handsome; the flowers, usually white, are in spikes 4 inches long in the leaf axils.

58040. PRUNUS sp. Amygdalaceæ.

(No. 9929. July, 1923.) A white-flowered tree about 25 feet in height from the slopes of Peima Shan (white-horse mountain), two days' journey southeast of Atuntze, at an altitude of 13,000 feet. The oblong red fruits are scarcely edible, although the Tibetans eat them. The region where this tree grows is quite cold, being covered with snow for a large part of the year.

58041. TRIFOLIUM INCARNATUM L.
Fabaceæ. Crimson clover.

From Paris, France. Seeds purchased from Vil-morin-Andrieux & Co. Received October 22, 1923.

Locally grown crimson clover from the Department of Loire, France. Introduced for cultural and comparison tests.

58042 to 58072.

From Spain. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received October 13, 1923. Notes by Doctor Harlan.

(September, 1923.) Purchased in agricultural villages from growers.

58042 to 58049. AVENASATIVA L. Poaceæ. Oats.

58042. (No. 248. Yuncos.)

58043. (No. 255.)

58044. (No. 257.)

58042 to 58072—Continued.

58045. (No. 265. Duenas.)

58046. (No. 269. Villacastin.)

58047. (No. 276. Monasterio de Bodilla.)

58048. (No. 280. Uzguiano.) Spring oats.

58049. (No. 284. Villar de Arnero.)

58050 to 58068. HORDEUM VULGARE PALLIDUM
Seringe. Poaceæ. Six-rowed barley.

58050. (No. 246.) Purchased in the village of Parla.

58051. (No. 249. Yuncos.)

58052. (No. 250. Yuncos.)

58053. (No. 252. Arevalo.)

58054. (No. 254.)

58055. (No. 256.)

58056. (No. 258.)

58057. (No. 260.)

58058. (No. 261.)

58059. (No. 263. Duenas.)

58060. (No. 266. Ameyugo.)

58061. (No. 268. Villacastin.)

58062. (No. 278. Uzguiano.) Winter barley.

58063. (No. 279. Uzguiano.) Spring barley.

58064. (No. 281. Villar de Arnero.)

58065. (No. 282. Villar de Arnero.)

58066. (No. 285. Ribofarda.)

58067. (No. 287. Alagon.) Secured from Mariano Argur.

58068. (No. 288.)

58069. LATHYRUS SATIVUS L. Fabaceæ.
Bitter vetch.
(No. 271. Monasterio de Bodilla.)

58070. MEDICAGO SATIVA L. Fabaceæ. Alfalfa.
(No. 275. Monasterio de Bodilla.)

58071. SECALE CEREALE L. Poaceæ. Rye.
(No. 274. Monasterio de Bodilla.)

58072. TRIGONELLA FOENUM-GRÆCUM L. Faba-
ceæ. Fenugreek.
(No. 273. Monasterio de Bodilla.)

58073. TRITICUM AESTIVUM L. (T.
vulgare Vill.) Poaceæ.
Common wheat.

From Montgomery, Punjab, India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received October 13, 1923.

(No. 239. July 19, 1923.) Wheat as it comes to the assembling warehouses from the farms about Montgomery, India. (Harlan.)

58074 to 58085. TRITICUM AESTIVUM
L. (T. vulgare Vill.) Poaceæ.
Common wheat.

From Spain. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received October 13, 1923. Notes by Doctor Harlan.

(September, 1923.) Purchased in agricultural villages from growers.

58074. (No. 247. September 20, 1923.) Purchased in the village of Parla.

58075. (No. 251. Arevalo.)

58076. (No. 253. Arevalo.)

58074 to 58085—Continued.

58077. (No. 259.)
 58078. (No. 262.)
 58079. (No. 264. Duenas.)
 58080. (No. 267. Ameyugo.)
 58081. (No. 270. Villacostin.)
 58082. (No. 272. Monasterio de Bodilla.)
 58083. (No. 277. Uzguiano.)
 58084. (No. 283. Villar de Arnero.)
 58085. (No. 286. Alagon.)

58086. Cicer arietinum L. Fabaceae. Chick-pea.

From Gizeh, Egypt. Seeds purchased from the botanical section, Ministry of Agriculture. Received October 31, 1923.

Seeds of the small-seeded chick-pea, introduced for forage-crop specialists.

58087. Malus sp. Malaceae. Apple.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received October 31, 1923.

(Likiang, August, 1923.) A tree about 30 feet high growing wild in the Likiang district. The small, attractive, uniformly red, oblong, cherry-like fruits have yellowish white acid flesh and are sold in the markets of Likiang. (Rock.)

58088 to 58090. BERBERIS spp. Berberidaceae. Barberry.

From Rochester, N. Y. Cuttings presented by W. L. G. Edson, in charge of the herbarium, Highland Park. Received November 9, 1923.

Introduced for pathologists studying leaf rusts.

58088. BERBERIS ACUMINATA Franch.

An evergreen shrub of open spreading habit with bright-red young growth and stout 3-parted spines 3 to 6 inches long. The brownish yellow flowers, three-quarters of an inch broad, are in clusters of four to eight in the axils of the previous year's shoots. The oblong black fruits are half an inch long. Native to central China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 234.)

58089. BERBERIS CONCINNA Hook. f.

A low, bushy barberry which was discovered in the mountains of Sikkim, India, at an altitude of about 12,000 feet. It is of compact habit, with obovate leaves shining green above and white beneath. The deep-yellow flowers are about half an inch across, and the red oblong berries are a little more than half an inch long. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 238.)

58090. BERBERIS CRATAEGINA DC.

A deciduous shrub 5 feet high with 6 to 10 flowered racemes 1 to 2 inches long and bluish black fruits. Native to Asia Minor.

For previous introduction see S. P. I. No. 53089.

58091 and 58092.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, agricultural adviser, Bureau of Agriculture. Received November 9, 1923. Notes by Mr. Wester.

58091. CAPSICUM ANNUUM L. Solanaceae. Red pepper.

A long, slender, very hot pepper found in Siasi, Sulu Archipelago. It is said to be grown on a commercial scale near Singapore. It is very productive and might be useful for chili growers in the United States.

58091 and 58092—Continued.

58092. FLACOURTIA EUPHLEBIA Merr. Flacourtiaceae.

Lanagon. A small tree, native to these islands, bearing in profusion fruits very similar in appearance and flavor to those of *Flacourtia cataphracta*. They can probably also be used for jelly making.

For previous introduction see S. P. I. No. 54691.

58093 to 58126. BERBERIS spp. Berberidaceae. Barberry.

From the Arnold Arboretum, Jamaica Plain, Mass. Cuttings collected by H. C. Skeels, Bureau of Plant Industry. Received October 31, 1923.

A collection of barberries introduced for pathologists studying leaf rusts.

58093. BERBERIS AEMULANS C. Schneid.

A purple-twigged shrub 3 or 4 feet high, with oval-oblong leaves, yellow flowers, and yellowish berries. Native to western Szechwan, China. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 434.)

58094. BERBERIS AGGREGATA C. Schneid.

A Chinese shrub 3 to 5 feet high which has yellowish brown spines, small oblong leaves, yellow flowers in dense racemes, and salmon-red fruits. (Skeels.)

For previous introduction see S. P. I. No. 54061.

58095. BERBERIS AGGREGATA PRATII C. Schneid.

A hardy shrub 6 to 10 feet in height, with slender 3-parted spines, oval leaves, narrow panicles of yellow flowers, and egg-shaped salmon-red fruits about one-fourth of an inch in length. It is a native of western China and grows very freely under cultivation at Kew, England. (Adapted from *Curtis's Botanical Magazine*, pl. 8549.)

For previous introduction see S. P. I. No. 55071.

58096. BERBERIS AGGREGATA RECURVATA C. Schneid.

A variety differing from the type only in having the fruiting pedicels recurved. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 443.)

58097. BERBERIS BRACHYPODA Maxim.

A shrub from western China, 4 to 7 feet high, with ovate, serrate leaves, long slender panicles of yellow flowers, and scarlet fruits often half an inch in length. (Skeels.)

For previous introduction see S. P. I. No. 54064.

58098 and 58099. BERBERIS BUXIFOLIA Lam.

58098. A barberry 1 to 3 feet high, with wedge-shaped leaves, solitary orange-yellow flowers on long stems, and blackish purple berries. Native to Chile.

58099. Var. *nana*. A variety which forms compact tufts about a foot high.

58100. BERBERIS CIRCUMSERATA C. Schneid.

A bush from central China, up to 7 feet high, with roundish oval leaves having very numerous slender spine-tipped serrations. The spines are 3-parted, about half an inch long, and the bright-yellow flowers, half an inch wide, are solitary or in twos or threes on a common stalk. The scarlet fruits are oblong, slightly bloomy, and nearly half an inch long. In autumn the leaves turn scarlet. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, pt. 3, p. 354, and from *Rehder, in Bailey, Standard Cyclopaedia of Horticulture*, vol. 1, p. 491.)

For previous introduction see S. P. I. No. 43819.

58101. BERBERIS CONCINNA Hook. f.

For previous introduction and description see S. P. I. No. 58089.

58093 to 58126—Continued.

58102. *BERBERIS DASYSTACHYA* Maxim.

A bush up to 5 feet in height, native to Hupeh and Shensi, western China. The flowers are yellow and the fruits coral red. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 442.)

58103. *BERBERIS DIELSIANA* Fedde.

A spreading, loosely branched Chinese shrub often 10 feet high, with elliptic leaves that are whitish beneath. The beauty of the red fruits is accentuated by the bronze color of the leaves in the fall. (*Skeels*.)

For previous introduction see S. P. I. No. 54066.

58104. *BERBERIS FRANCISCI-FERDINANDI* C. Schneid.

A shrub 6 to 10 feet in height, with deciduous, papery, dull-green leaves, yellow flowers, and ovoid scarlet berries. Native to western China. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 363.)

58105. *BERBERIS GILGIANA* Fedde.

A native of central China, this ashy barked shrub has somewhat coriaceous lanceolate leaves and dense racemes of yellow flowers. (*Skeels*.)

For previous introduction see S. P. I. No. 54067.

58106. *BERBERIS HENRYANA* C. Schneid.

A Chinese shrub resembling the common barberry (*Berberis vulgaris*) but having purplish or brown branches. It is about 8 feet high with membranous, elliptical leaves, pale beneath, and racemes of 10 to 20 yellow flowers, followed by red fruits. (*Skeels*.)

For previous introduction see S. P. I. No. 54068.

58107. *BERBERIS INTEGERRIMA* Bunge.

A Siberian barberry which forms a shrub up to 6 feet high, with grayish green leaves, dense racemes of small flowers, and black fruits. (Adapted from *Schneider, Illustriertes Handbuch der Laubholzkunde*, vol. 1, p. 505.)

58108. *BERBERIS JULIANAE* C. Schneid.

A shrubby barberry up to 7 feet high, native to western China. It has thick 3-cleft spines about an inch and a half long, narrowly oval leathery leaves, and small yellow flowers. (Adapted from *Sargent, Plantae Wilsonianae*, pt. 1, p. 361, 1913.)

For previous introduction see S. P. I. No. 43820

58109. *BERBERIS KOREANA* Palibin.

A Korean shrub, often 6 feet high, with obovate leaves 2 to 3 inches long, dense lax racemes of yellow flowers, and round scarlet fruits. (*Skeels*.)

For previous introduction see S. P. I. No. 54069.

58110. *BERBERIS NOTABILIS* C. Schneid.

A large handsome shrub up to 8 feet in height, with papery blue-green leaves, rather dense clusters of yellow flowers, and purple fruits. Probably a hybrid of *Berberis heteropoda*. (Adapted from *Journal of the Arnold Arboretum*, vol. 4, p. 203.)

58111. *BERBERIS OTTAWENSIS* C. Schneid.

A spreading-erect shrub 3 or 4 feet high, with very variable foliage, long-stalked yellow flowers, and red berries. A hybrid, one of whose parents is *Berberis vulgaris* f. *atropurpurea*. (Adapted from *Journal of the Arnold Arboretum*, vol. 4, p. 221.)

58112 and 58113. *BERBERIS POIRETI* C. Schneid.

A shrub up to 5 feet in height, with slender, arching branches and deep blood-red berries. Native to northern China.

For previous introduction see S. P. I. No. 50404.

58093 to 58126—Continued.

58113. *Forma weichangensis*. A form of the above species from Weichang, Chihli, China; it differs slightly from the type in the size of the bracts and in spine characters.

For previous introduction see S. P. I. No. 55073.

58114. *BERBERIS POLYANTHA* Hemsl.

A Chinese shrub, 6 to 9 feet high, with deep-yellow flowers and salmon-red fruits. Native to western Szechwan. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 376.)

For previous introduction see S. P. I. No. 53638.

58115. *BERBERIS REHDERIANA* C. Schneid.

This barberry is supposed to be a native of Japan; it is a shrub with weak spines, oblanceolate or ovate-oblong leaves about 1 inch in length, racemes of small yellow flowers, and yellowish red globose fruits. (Adapted from *Bulletin V Herbar Boissier*, ser. 2, vol. 5, p. 659.)

For previous introduction see S. P. I. No. 49063.

58116. *BERBERIS SIEBOLDII* Miquel.

A Japanese shrub about 3 feet high, with reddish brown branches and obovate leaves 1 to 2 inches long, which turn deep red in the fall. The yellow flowers, in small racemes, are followed by light-red fruits one-fourth of an inch long. (*Skeels*.)

For previous introduction see S. P. I. No. 54072.

58117. *BERBERIS SILVA-TAROUCANA* C. Schneid.

A shrub 3 to 6 feet high, native to thickets in western China, with papery, narrowly oblong leaves, sessile racemes of yellow flowers, and roundish scarlet berries. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 370.)

58118. *BERBERIS SINENSIS* Desf.

A slender-branched shrub 4 to 6 feet high, with ovoid purplish berries. Native to the Caucasus. (*Rehder*.)

58119. *BERBERIS STENOPHYLLA* Lindl.

A slender shrub 1 to 3 feet in height, with narrow, spiny pointed, dark-green leaves and nodding umbels of yellow flowers. A hybrid of garden origin. (*Rehder*.)

58120. *BERBERIS SUBCAULIALATA* C. Schneid.

A thickly branched shrub from Tibet, up to 4½ feet high, with spines up to an inch in length, thick, lance-shaped leaves about an inch long and globular reddish yellow fruits one-fourth of an inch in diameter. (Adapted from *Schneider, Illustriertes Handbuch der Laubholzkunde*, vol. 2, p. 319.)

For previous introduction see S. P. I. No. 43824

58121. *BERBERIS THUNBERGHII* MAXIMOWICZII Regel.

A Japanese barberry which is larger than the ordinary form and has more arching branches, while the leaves are green beneath. It has the same autumn color of the leaves as the common form and has larger flowers and fruits. (*Skeels*.)

For previous introduction see S. P. I. No. 54073.

58122. *BERBERIS THUNBERGHII* MINOR Rehder.

A variety of the well-known species which forms a very low, dense shrub up to 2 feet in height.

58123. *BERBERIS TISCHLERI* C. Schneid.

A shrub from western China, 7 to 14 feet high, with spines in threes, papery spine-tipped leaves up to 2 inches in length, and yellow flowers in dense racemes. The somewhat pruinose egg-shaped red fruits appear in October. (Adapted from *Sargent, Plantae Wilsonianae*, pt. 1, p. 355, 1913.)

For previous introduction see S. P. I. No. 43825.

58093 to 58126—Continued.

58124. *BERBERIS TRIACANTHOPHORA* Fedde.

An evergreen shrub, up to 5 feet high, with very narrow leaves, which are sometimes spiny toothed, and black ovoid berries. Native to central China.

58125. *BERBERIS VERNAE* C. Schneid.

A low shrub, native to Kansu, China, with spatulate leaves in small fascicles and small yellow flowers followed by round red berries one-fourth of an inch in diameter. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 372.)

For previous introduction see S. P. I. No. 54074.

58126. *BERBERIS VERRUCULOSA* Hemsl. and Wils.

This attractive Chinese barberry is found as an evergreen shrub in western Szechwan, where it becomes 3 or 4 feet in height. The yellow flowers and ovoid purplish blue fruits are borne among the small, very spiny leaves. (Adapted from *Curtis's Botanical Magazine*, vol. 133, pl. 8454.)

For previous introduction see S. P. I. No. 49129.

58127. *EUCALYPTUS DELEGATENSIS* R. T. Baker.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received December 3, 1923.

These seeds were produced at Tyenna, which has an altitude of over 700 feet and an annual rainfall of over 40 inches. (Evans.)

"The gum-topped stringbark is an erect tree, often assuming the largest dimensions. The branches are usually short and ascending, and the bark is thin and fibrous." (L. Rodway, *Tasmanian Eucalypts*, p. 15.)

58128. *TRICHILIA EMETICA* Vahl.
Meliaceae.

From Uganda, British East Africa. Seeds presented by Frank H. Rogers, through H. L. Shantz, Bureau of Plant Industry. Received November 9, 1923.

These seeds are known in Mozambique under the native names *Umkuhlu*, *Marba*, *Marwa-Maawa*, *Guande*, *Majourreira*, *Majura*, or *Majurrera*, where they have long been known as the source of *Majura* tallow, a vegetable fat used by the natives for greasing the skin. The fat consists of about 55 per cent oleic acid and 45 per cent palmitic acid and has been used in the manufacture of soap. (W. W. Stockberger, Bureau of Plant Industry.)

For previous introduction see S. P. I. No. 52811.

58129. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.) Poaceae. Broomcorn.

From Assam, Jorhat, India. Seeds presented by S. K. Mitra, economic botanist to the Government of Assam. Received November 15, 1923.

This broomcorn was picked out as a mutant in my standard broomcorn plat. I received the seed from the United States Department of Agriculture in 1921. (Mitra.)

58130. *PENTAGONIA PHYSALODES* (L.) Hiern. (*Nicandra physaloides* Gaertn.) Solanaceae.

From Ures, Sonora, Mexico. Seeds presented by Roberto A. Morales, forest inspector. Received November 15, 1923.

A blue-flowered solanaceous plant with the fruit inclosed in the husk, as in *Physalis*. The campanulate flowers, an inch or more in diameter, are light blue with a lighter throat; they are produced singly in the axils of the leaves.

For previous introduction see S. P. I. No. 48922.

58131 to 58135.

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received November 8, 1923.

58131 to 58133. *BERBERIS* spp. Berberidaceae.
Barberry.58131. *BERBERIS AETNENSIS* Presl.

A low, dense, deciduous shrub with numerous spines, from Sicily.

58132. *BERBERIS ALKSUTHIENSIS* Hort.

[Place of publication of name not yet found.]

58133. *BERBERIS THIBETICA* C. Schneid.

A deciduous shrub 3 to 4 feet tall, with purplish glaucous branches, entire leaves which are whitish beneath, and yellow flowers, followed by red berries. Native to China. (Adapted from *Schneider, Handbuch der Laubholzkunde*, vol. 2, p. 920.)

For previous introduction see S. P. I. No. 53642.

58134. *COTONEASTER HARROVIANA* Wilson.
Malaceae.

An evergreen shrub with a loose, spreading habit, about 6 feet in height, with shining, dark-green, bristle-tipped leaves, dense corymbs of white flowers, and red fruits. Native to Yunnan, China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 410.)

58135. *HEMEROCALLIS FORRESTII* Diels. Liliaceae.

A very handsome plant about 2 feet high, with a thick rootstalk, narrow lanceolate leaves, and deep golden orange tubular flowers, 2 to 3 inches long, borne in many-flowered spikes. It flowers only in very early spring and is suited only for pure limestone soil. (J. F. Rock, note under S. P. I. No. 55933.)

58136 to 58152.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received November 10, 1923.

58136 to 58143. *BERBERIS* spp. Berberidaceae.
Barberry.58136. *BERBERIS AGGREGATA* PRATT C. Schneid.

For previous introduction and description see S. P. I. No. 58095.

58137. *BERBERIS BEANIANA* C. Schneid.

A shrub with vigorous shoots, yellow spines, small yellow flowers, and purple plum-shaped fruits. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 439.)

For previous introduction see S. P. I. No. 49925.

58138. *BERBERIS GAGNEPAINI* C. Schneid.

An evergreen shrub 3 to 6 feet high, with leathery leaves, spiny on the margins, and delicate yellow flowers on red pedicels. The ellipsoid berries are glaucous purple. Native to China.

For previous introduction see S. P. I. No. 53634.

58139. *BERBERIS LYCIUM* Royle.

A shrub native to the western Himalayas at altitudes of 3,000 to 9,000 feet, with narrow bright-green leaves and pale-yellow flowers, followed by ovoid violet berries. (Adapted from *Collett, Flora Simlensis*, p. 22.)

For previous introduction see S. P. I. No. 53636.

58136 to 58152—Continued.

58140. BERBERIS POLYANTHA Hemsl.

A deciduous shrub 6 to 10 feet high, with simple or 3-pronged thorns, obovate leaves, mostly rounded at the apex, and yellow flowers, which are produced during June and July in drooping panicles. The berries are red. Native to China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 246.)

For previous introduction see S. P. I. No. 53638.

58141. BERBERIS SOULIEANA C. Schneid.

An evergreen shrub 3 to 6 feet high, with leathery, lanceolate, spiny serrate leaves 2 to 4 inches long and brownish yellow flowers in clusters of 2 to 15. The black ellipsoid berries are about five-eighths of an inch long. Native to China. (Adapted from *Curtis's Botanical Magazine*, vol. 134, pl. 8185, under *Berberis acuminata* Stapf.)

For previous introduction see S. P. I. No. 49930.

58142. BERBERIS STAFFIANA C. Schneid.

A partly evergreen shrub, 5 to 6 feet high with spreading arching stems, pale-yellow flowers, and carmine-red berries. Native to western China.

For previous introduction see S. P. I. No. 53640.

58143. BERBERIS SUBCAULIALATA C. Schneid.

For previous introduction and description see S. P. I. No. 58120.

58144. CORNUS BRETSCHNEIDERI J. Henry. Dogwood.

A shrub up to 12 feet in height, with green or purplish branches, oval, hairy leaves, and dense clusters of bluish black berries.

For previous introduction see S. P. I. No. 42188.

58145 to 58151. COTONEASTER spp. Malacæ.

58145. COTONEASTER AFFINIS OBTUSA (Wall.) C. Schneid.

An upright slender-branched shrub, with bright-green leaves and globose dark-brown fruits. Native to the Himalayas. (Adapted from *Schneider, Illustriertes Handbuch der Laubholzkunde*, vol. 1, p. 757.)

58146. COTONEASTER HARROVIANA Wilson.

For previous introduction and description see S. P. I. No. 58134.

58147. COTONEASTER HEBEPHYLLA Diels.

A very ornamental deciduous shrub, 10 to 18 feet in height. It has long, rambling branches, white flowers, and dark-carmine fruits. (*J. F. Rock, note under S. P. I. No. 55875.*)

58148. COTONEASTER HUPEHENSIS Rehd. and Wils.

A strong-growing, shrubby, black-fruited species, with graceful spreading branches, attractive white flowers, and crimson globose fruits. (*Arnold Arboretum, Bulletin of Popular Information*, No. 19.)

For previous introduction see S. P. I. No. 44079.

58149. COTONEASTER LINDLEYI Steud.

A large shrub or small tree, with semideciduous dark-green leaves, corymbs of white flowers, and bluish black fruits. Native to the north-western Himalayas. (Adapted from *Schneider, Handbuch der Laubholzkunde*, vol. 1, p. 757.)

For previous introduction see S. P. I. No. 53683.

58136 to 58152—Continued.

58150. COTONEASTER MELANOCARPA LAXIFLORA (Jacq.) C. Schneid.

A spreading shrub which becomes about 12 feet high, with oval dark-green leaves, grayish white beneath, gracefully pendulous clusters of pinkish white flowers, and black globose fruits. This Siberian species is one of the most attractive of the black-fruited cotoneasters. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 412.)

For previous introduction see S. P. I. No. 53685.

58151. COTONEASTER RACEMIFLORA (Desf.) Koch.

A low shrub from northern Africa and western Asia, with roundish leaves, slightly hairy beneath, and short-stalked cymes of white flowers, followed by red fruits. Received as *Cotoneaster fontanesi*, for which *C. racemiflora* is the earlier name.

For previous introduction see S. P. I. No. 53690.

58152. HYDRANGEA BRETSCHNEIDERI Dipp. Hydrangeaceæ.

A stout bushy shrub 8 or 10 feet high, with dull-green slender-pointed leaves and flattened corymbs, 4 or 5 inches wide, of white flowers, which become rosy. This hardy hydrangea was first discovered in the mountains near Peking, China, and thrives best in a sunny position in good soil. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 624.)

For previous introduction see S. P. I. No. 42189.

58153 to 58357.

From Siberia. Seeds presented by Prof. T. D. A. Cockerell, University of Colorado. Received November 2, 1923.

58153. ACTINIDIA KOLOMIKTA (Maxim.) Rupr. Dilleniaceæ.

Razdol'noe. From Nikolsk Ussuriiskii.

58154. ALLIUM CEPA L. Liliaceæ. Onion.

Sweet onion. From Okeanskaja, Olshin.

58155 to 58189. AVENA SATIVA L. Poaceæ. Oats.

58155. *Blagodatnoe*. From Nikolsk Ussuriiskii.

58156. *Bogatirka*. From Nikolsk Ussuriiskii.

58157. *Chernigovka*. From Spassk.

58158. *Chernishevka*. From Spassk.

58159. *Chorol*. From Nikolsk Ussuriiskii.

58160. *Grodekovo*. From Nikolsk Ussuriiskii.

58161. *Innokentievka*. From Spassk.

58162. *Ivanovka*. From Nikolsk Ussuriiskii.

58163. *Kabarga*. From Spassk.

58164. *Krasnoe*. From Posetski.

58165. *Kremovo*. From Nikolsk Ussuriiskii.

58166. *Kuchuki*. From Nikolsk Ussuriiskii.

58167. *Margaritovo*. From Olshin.

58168. *Nizhni Janchich*. From Posetski.

58169 to 58177. From Nikolsk Ussuriiskii.

58169. *Novo-Belmanovka*.

58170. *Novojatkovo*.

58171. *Novo-Kashalinsk*.

58172. *Novo-Nikolaevka*.

58173. *Novo-Troitzkoe*.

58174. *Osinovka*.

58153 to 58357—Continued.

58175. *Pavlovka*.
 58176. *Platonovo Alekandrovscoe*.
 58177. *Popovka*.
 58178. *Sikilsk*. From Posetski.
 58179 to 58183. From Nikolsk Ussuriiskii.
 58179. *Sofie-Alekseevskoe*.
 58180. *Strugovka*.
 58181. *Tarasovka*.
 58182. *Vladimirovskoe*.
 58183. *Vozdvizhenka*.
 58184 to 58186. From the city of Spassk.
 58184. *Beliak*.
 58185. *Grivan*.
 58186. A Swedish variety.
 58187. From Goschoz, Spassk.
 58188. From Goschoz, Nikolsk Ussuriiskii.
 58189. From Nikolsk Ussuriiskii.
 58190 to 58197. From Okeanskaia, Olshin.
 58190 and 58191. *BETA VULGARIS* L. Chenopodiaceæ. Beet.
 58190. An Egyptian variety.
 58191. *Korshovaia*.
 58192. *BRASSICA OLERACEA CAPITATA* L. Brassicaceæ. Cabbage.
 Braunschweig cabbage.
 58193 and 58194. *CUCUMIS SATIVUS* L. Cucurbitaceæ. Cucumber.
 58193. Seeds of mixed varieties: *Nejinski*, *Muromski*, and *Akselski*.
 58194. *Nejinski*.
 58195. *CUCURBITA MAXIMA* Duchesne. Cucurbitaceæ. Squash.
 A Canadian variety.
 58196. *CUCURBITA PEPO* L. Cucurbitaceæ. Gourd.
 Bottle gourd.
 58197. *DAUCUS CAROTA* L. Apiaceæ. Carrot.
Nantski.
 58198 to 58220. *FAGOPYRUM VULGARE* Hill. (*F. esculentum* Moench.) Polygonaceæ. Buckwheat.
 58198. *Chernigorka*. From Spassk.
 58199. *Chernisherka*. From Nikolsk Ussuriiskii.
 58200. *Duchorskoe*. From Nikolsk Ussuriiskii.
 58201. *Granaturka*. From Nikolsk Ussuriiskii.
 58202. *Innokentievka*. From Spassk.
 58203. *Kabarga*. From Spassk.
 58204. *Konstantinovka*. From Nikolsk Ussuriiskii.
 58205. *Kremovo* from Nikolsk Ussuriiskii.
 58206. *Krasnoe*. From Posetski.
 58207 to 58218. From Nikolsk Ussuriiskii.
 58207. *Michailovka*.
 58208. *Nesterovskoe*.
 58209. *Novo-Belmanorka*.
 58210. *Novo-Devitza*.

58153 to 58357—Continued.

58211. *Novopsatkovo*.
 58212. *Novo-Troitzkoe*.
 58213. *Osipovka*.
 58214. *Popovka*.
 58215. *Pushkino*.
 58216. *Strugovka*.
 58217. *Tarasovka*.
 58218. *Vozdvizhenko*.
 58219. From Goschoz, Spassk.
 58220. From Goschoz, Nikolsk Ussuriiskii.
 58221 to 58223. *HELIANTHUS ANNUUS* L. Asteraceæ. Sunflower.
 58221. *Ivanovka*. From Nikolsk Ussuriiskii.
 58222. *Sofie-Alekseevskoe*. From Nikolsk Ussuriiskii.
 58223. From Goschoz, Spassk.
 58224 to 58233. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceæ. Six-rowed barley.
 58224 to 58228. From Nikolsk Ussuriiskii.
 58224. *Chernisherka*.
 58225. *Furmanovo*.
 58226. *Granaturka*.
 58227. *Ivanovka*.
 58228. *Konstantinovka*.
 58229. *Krasnoe*. From Posetski.
 58230 to 58233. From Nikolsk Ussuriiskii.
 58230. *Krasulovka*.
 58231. *Kremoro*.
 58232. *Novo-Belmanorka*.
 58233. *Vozdvizhenko*.
 58234 to 58248. *LINUM USITATISSIMUM* L. Linaceæ. Flax.
 58234. *Annenka*. From Spassk.
 58235. *Chernigovka*. From Spassk.
 58236 to 58243. From Nikolsk Ussuriiskii.
 58236. *Chorol*.
 58237. *Kremoro*.
 58238. *Kupuko*.
 58239. *Nesterovskoe*.
 58240. *Nikolo-Lvovskoe*.
 58241. *Novo-Belmanorka*.
 58242. *Novojatkoro*.
 58243. *Popovka*.
 58244. *Promislavka*. From Olshin.
 58245 to 58248. From Nikolsk Ussuriiskii.
 58245. *Sofie-Alekseevskoe*.
 58246. *Strugovka*.
 58247. *Tarasovka*.
 58248. *Vozdvizhenka*.
 58249 and 58250. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ. Tomato.
 From Okeanskaia, Olshin.
 58249. *King Humbert*.
 58250. A large yellow tomato.

58153 to 58357—Continued.

- 58251 to 58272. *PANICUM MILLACEUM* L. Poaceæ.
Proso.
- 58251 to 58255. From Nikolsk Ussuriiskii.
58251. *Bogatirka*.
58252. *Chernishovka*.
58253. *Furmanovo*.
58254. *Granaturka*.
58255. *Ivanovka*.
58256. *Kabarga*. From Spassk.
- 58257 to 58262. From Nikolsk Ussuriiskii.
58257. *Kremovo*.
58258. *Michailovka*.
58259. *Nesterovskoe*.
58260. *Novo-Devitza*.
58261. *Osinovka*.
58262. *Platonovo Aleksandrovskoe*.
58263. *Promislovka*. From Olshin.
- 58264 to 58267. From Nikolsk Ussuriiskii.
58264. *Sofie-Alekseevskoe*.
58265. *Tarasovka*.
58266. *Vladimirovskoe*.
58267. *Vozdvizhenko*.
58268. *Zenkovo*. From Spassk.
58269. *Black*. From Spassk.
58270. *Grits*. From Goschoz, Schmakovski Monastery, Spassk.
58271. *Red*. From Goschoz, Nikolsk Ussuriiskii.
58272. From Novopsatkovo, Nikolsk Ussuriiskii.
58273. *PERILLA FRUTESCENS* (L.) Britton. (*P. ocymoides* L.) Menthaceæ. Perilla.
- Sudza*. From Nikolsk Ussuriiskii.
- 58274 to 58277. *PHASEOLUS* spp. Fabaceæ.
58274. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Adzuki bean.
- Krasnoe*. From Posetski.
58275. *PHASEOLUS COCCINEUS* L. Scarlet Runner bean.
- Decorative bean. From Station II, Rechka, Ussuriiskii Railroad.
- 58276 and 58277. *PHASEOLUS VULGARIS* L. Common bean.
58276. *Furmanovo*. From Nikolsk Ussuriiskii.
58277. Asparagus bean. From Okeanskaia, Olshin.
- 58278 and 58279. *PHLEUM PRATENSE* L. Poaceæ. Timothy.
58278. *Uspenka*. From Spassk.
58279. From the city of Spassk.
- 58280 to 58283. *PISUM SATIVUM* L. Fabaceæ. Pea.
58280. *Khvalinka*. From Spassk.
58281. Green peas. From Station II, Rechka, Ussuriiskii Railroad.
58282. Canning peas. From Station II, Rechka, Ussuriiskii Railroad.
58283. From Goschoz, Spassk.

58153 to 58357—Continued.

58284. *RAPHANUS SATIVUS* L. Brassicaceæ. Radish.
- An oval-elongated, greenish, Chinese variety of radish. From Okeanskaia, Olshin.
- 58285 to 58311. *SECALE CEREALE* L. Poaceæ. Rye.
- 58285 to 58288. Winter rye.
58285. *Blagodatnoe*. From Nikolsk Ussuriiskii.
58286. *Chernigovka*. From Nikolsk Ussuriiskii.
58287. *Chorol*. From Nikolsk Ussuriiskii.
58288. *Delovka*. From Spassk.
- 58289 to 58303. From Nikolsk Ussuriiskii.
58289. *Duchovskoe*. Spring rye.
58290. *Ennokentievka*. Winter rye.
- 58291 to 58296. Spring rye.
58291. *Jakonovka*.
58292. *Kremovo*.
58293. *Kuguni*.
58294. *Michailovka*.
58295. *Nesterovskoe*.
58296. *Nikolo-Lvovskoe*.
58297. *Novaia-Devitza*. Winter rye.
58298. *Novojatkovo*. Spring rye.
58299. *Novo-Kalachinek*. Spring rye.
58300. *Novo-Troitzkoe*. Winter rye.
58301. *Platonovo Aleksandrovskoe*. Winter rye.
58302. *Popovka*. Spring rye.
58303. *Popovka*. Winter rye.
58304. *Pomislovka*. From Olshinsk.
58305. *Sofie-Alekseevskoe*. From Nikolsk Ussuriiskii.
58306. *Strugovka*. From Nikolsk Ussuriiskii.
58307. *Tarasovka*. From Nikolsk Ussuriiskii.
58308. *Vozdvizhenka*. From Nikolsk Ussuriiskii.
58309. Winter rye. From Schmakovski Monastery.
58310. From Goschoz, Nikolsk Ussuriiskii.
58311. From the city of Spassk.
- 58312 to 58326. *SOJA MAX* (L.) Piper. (*Glycine hispida* Maxim.) Fabaceæ. Soy bean.
58312. *Chernishevka*. From Nikolsk Ussuriiskii.
58313. *Chorol*. (Chinese "White brow.")
58314. *Fatashi*. From Posetsk.
58315. *Grodekovo*. From Nikolsk Ussuriiskii.
58316. *Ivanovka*. From Nikolsk Ussuriiskii.
58317. *Kazakevitchevo*. From Nikolsk Ussuriiskii.
58318. *Konstantinovka*. From Spassk.
58319. *Krasnoe*. From Posetski.
58320. *Krenlovka*. From Nikolsk Ussuriiskii.
58321. *Nagornaia*. From Posetski.
58322. *Novaia Derevnia*. From Posetski.
58323. *Sofie-Alekseevskoe*. From Nikolsk Ussuriiskii.
58324. *Zenkovka*. From Spassk.
58325. From Goschoz, Spassk.

58153 to 58357—Continued.

58326. From the city of Spassk.
 58327 to 58342. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.) Poaceae. Common wheat.
 58327. *Brovki*. From Olshin.
 58328. *Chernigovka*. From Spassk.
 58329. *Chernishevka*. From Spassk.
 58330. *Chorol*. From Nikolsk Ussuriiskii.
 58331. *Duchovskoe*. From Nikolsk Ussuriiskii.
 58332. *Khealinka*. From Spassk.
 58333. *Margaritovo*. From Olshin.
 58334. *Moleim Mis*. From Olshin.
 58335. *Petrovka*. From Olshin.
 58336. *Promislovka*. From Olshin.
 58337. *Sofie-Alekseevskoe*.
 58338. *Tumanova*.
 58339. *Zenkovka*. From Spassk.
 58340. *American beardless*. From the city of Spassk.
 58341. From Goschoz, Spassk.
 58342. Origin not given.
 58343 to 58357. *ZEA MAYS* L. Poaceae. Corn.
 58343. *Chorol*. From Nikolsk Ussuriiskii.
 58344. *Fatashi*. From Posetski.
 58345 to 58350. From Nikolsk Ussuriiskii.
 58345. *Golenki*.
 58346. *Granaturka*.
 58347. *Ivanovka*.
 58348. *Kazakevitchero*.
 58349. *Konstantinovka*.
 58350. *Krenlovka*.
 58351. *Nagornaia*. From Posetski.
 58352. *Uspenka*. From Spassk.
 58353. *Table maize*. From Okeanskaia, Olshin.
 58354. (Turkish.) From the city of Spassk.
 58355. From the city of Spassk.
 58356. From Nikolsk Ussuriiskii.
 58357. From Razdolvinskaiia Volost, Nikolsk Ussuriiskii.

58358. *JATROPHA* sp. Euphorbiaceae. Chilte.

From San Jacinto, Mexico. Seeds presented by Samuel Torres Elorduy, Chief, Department of Agriculture. Received December 12, 1923.

Introduced for testing as a possible source of rubber.

58359 to 58361.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 15, 1923. Notes by Mr. Rock.

58359. *ANEMONE* sp. Ranunculaceae.

(October 8, 1923.) A plant about 3 feet high, which grows in moist alpine meadows at the edge of fir forests on the Litiping-Yangtze-Mekong watershed at an altitude of about 11,000 feet. The large dark-green glossy leaves form globose cushions, and the umbels of white flowers are on stalks 3 feet or more in length.

58359 to 58361—Continued.

58360. *CEPHALOTAXUS* sp. Taxaceae.

(No. 10891. October 7, 1923.) A small coniferous tree, 20 to 25 feet tall, growing in dense clumps above Lutien on the eastern slope of the Yangtze-Mekong watershed at an altitude of 9,600 feet. The rather long, broad needles are bluish green, and the maroon-colored fleshy fruits, the size of small plums, contain almond-shaped thin-shelled stones.

58361. *IRIS* sp. Iridaceae.

Iris.

(October 8, 1923.) A plant a foot to a foot and a half in height, growing in clumps in the moist alpine meadows of Litiping, north of Lutien, at an altitude of about 11,000 feet. It is very handsome, with deep indigo-blue flowers.

58362 to 58364.

From Ibarra, Ecuador. Seeds presented by J. Felix Tamayo. Received December 8, 1923.

58362. *DATURA ROSEI* Safford. Solanaceae.

Huantuc. A yellow-flowered form of the common abortion *Datura* which is cultivated about the huts of the Indians all through the Ecuadorian highlands. The plant sometimes grows to 15 or 18 feet; its tubular flowers are about 6 inches long, 2 inches broad at the mouth, and of a rich deep-yellow color. The plant is worthy of trial as an ornamental in protected situations throughout southern California and in southern Florida.

For previous introduction see S. P. I. No. 54049.

58363. *PHASEOLUS VULGARIS* L. Fabaceae.

Common bean.

Nuya. The best variety of pole bean which we have in cultivation. (*Tamayo*.)

58364. *ZEA MAYS* L. Poaceae.

Corn.

Guandango. The best variety of corn cultivated here. The ear is large, sometimes 30 centimeters (a foot) long, with 8 to 12 rows of kernels. The cob is very slender. These seeds are not of a pure strain. (*Tamayo*.)

58365. *PERSEA AMERICANA* Mill. (*P. gratissima* Gaertn. f.) Lauraceae.

Avocado.

From San Jose, Costa Rica. Seeds purchased from Otón Jimenez, through the United Fruit Co., Limón, Costa Rica. Received December 7, 1923.

While carrying on agricultural explorations in Costa Rica in 1920, Wilson Popenoe, in company with Mr. Jimenez, discovered a wild avocado which, in the opinion of Mr. Popenoe, may possibly be the ancestor of some of the cultivated varieties. At that time budwood and seeds were sent in under S. P. I. Nos. 50585 and 51031, respectively, under which numbers detailed notes will be found. This material failed to survive, however.

The seeds now received from Mr. Jimenez are presumably of this wild type of avocado, and they will be grown for trial as stock plants.

58366. *SCHIZOCENTRON ELEGANS* (Schlecht.) Meisn. Melastomaceae.

From New York, N. Y. Plants presented by Dr. N. L. Britton, director, New York Botanical Gardens, Bronx Park. Received December 28, 1923.

A very charming little creeper, native to eastern Mexico, which roots at the joints and forms a dense carpet. The leaves are small, opposite, and short stemmed, and the comparatively large purplish flowers appear at the ends of short branches. The plant deserves to be more widely cultivated and would probably grow in the open in the southern part of the United States. (Adapted from note by J. N. Rose in *Addisonia*, pl. 286.)

58367 and 58368.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 28, 1923. Notes by Mr. Rock.

58367. PINUS ARMANDI Franch. Pinaceæ. Pine.

(September 23, 1923.) This is one of the largest conifers in Yunnan. It is a tree 70 to 90 feet high, with a trunk 4 feet in diameter, which grows on well-drained, moist mountain slopes from central to northern Yunnan, at altitudes of 8,000 to 10,000 feet. The edible seeds are sold in the markets.

58368. PRIMULA SIKKIMENSIS Hook. Primulaceæ.

(No. 8995. September, 1923.) This primrose which is 1 or 2 feet high, with the habit of *Primula secundiflora*, grows in moist meadows and along stream beds on the Likiang Snow Range at an altitude of 13,000 feet. The lanceolate drooping leaves are dull green on both sides, and the rich yellow flowers, which appear in June, are large and bell shaped.

58369. HEDYSCEPE CANTERBURYANA (F. Muell.) Wendl. and Drude. Phœnicaceæ. Palm.

From Sydney, New South Wales. Seeds presented by J. H. Maiden, director and government botanist, Botanic Gardens. Received November 17, 1923.

This very handsome palm is known in a wild state only on Lord Howe Island, over 400 miles east of Australia, where it is called the "umbrella palm." It is a tall spineless palm with a comparatively short, thick stem, from the end of which arise the dense graceful leaves, composed of long, narrow segments. In habit and foliage it resembles a Kentia, and in general its cultural requirements are the same.

58370. BYRSONIMA SPICATA (Cav.) DC. Malpighiaceæ.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, Botanic Gardens. Received November 22, 1923.

A tropical American tree 30 to 40 feet high, known in Dominica as *bois tan*. The narrow leaves are shining green above and rusty brown beneath, and the yellow flowers, followed by acid edible fruits of the same color, make the tree a showy ornamental. The tough, light wood is useful for general construction, and the bark is a source of tannin.

58371. ZEA MAYS L. Poaceæ. Corn.

From Bawlf, Alberta, Canada. Seeds presented by A. W. Petrick. Received November 22, 1923.

A yellow flint corn, originally grown in north-western Manitoba by the Mennonites. It is a very early variety, earlier than squaw corn, with a very short growing season. (Petrick.)

58372 and 58373.

From Cambridge, England. Seeds presented by H. Gilbert-Carter, director, The University Botanic Garden. Received November 23, 1923.

58372. LYCOPERSICON ESCULENTUM Mill. Solanaceæ. Tomato.

Var. *racemigerum*. The fruits of this variety, which are in racemose clusters, are edible, but too small for domestic use.

Introduced for pathologists studying tomato diseases.

58372 and 58373—Continued.

58373. MECONOPSIS CAMBRICA Viguier. Papaveraceæ.

The Welsh poppy, native to the British Isles, is a very desirable garden perennial. The typical form, about a foot high, has single bright-yellow flowers. Very attractive double forms with orange-colored flowers also have been produced. (Adapted from *Gardeners' Chronicle*, ser. 3, vol. 52, p. 54.)

58374 and 58375.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received November 23, 1923. Notes by Mr. Rock.

58374. MECONOPSIS INTEGRIFOLIA (Maxim.) Franch. Papaveraceæ.

(September, 1923.) This is a larger species than *Meconopsis ruda*s and grows wild on the Likiang Snow Range in alpine meadows at altitudes of 12,000 to 14,000 feet. The handsome yellow flowers are often 4 inches across.

For previous introduction see S. P. I. No. 56326.

58375. PRIMULA SECUNDIFLORA Franch. Primulaceæ.

(No. 9838.) A primrose about a foot in height, growing in alpine meadows on the Likiang Snow Range at an altitude of about 14,000 feet. The drooping, deep reddish purple flowers, with campanulate corollas, are borne at the apex of the spike. This species is always found associated with *Primula pseudosikkimensis* and *P. pinnatifida*.

For previous introduction see S. P. I. No. 55336.

58376. PAULOWNIA FORTUNEI (Seem.) Hemsl. Scrophulariaceæ.

From Taihoku, Formosa, Japan. Seeds presented by R. Kanehira, director, Experimental Station of Forestry. Received December 3, 1923.

This species, although closely allied to *Paulownia imperialis*, which is so well known as an ornamental tree in this country, has whitish, spotted flowers which are larger than those of *P. imperialis*. The leaves also are much longer and are covered below with a short, dense, white pubescence. (Adapted from *Bulletin Dendrologique de France*, 1903, p. 162.)

For previous introduction see S. P. I. No. 52268.

58377. AGATI TOMENTOSA (Hook. and Arn.) Nutt. (*Sesbania tomentosa* Hook. and Arn.) Fabaceæ.

From Honolulu, Hawaii. Seeds presented by C. S. Judd, superintendent of forestry, Board of Commissioners of Agriculture and Forestry. Received November 26, 1923.

This plant is now almost extinct in this part of the Hawaiian Islands because the foliage is such an attractive forage for cattle and goats. The brilliant-red flowers make the plants very ornamental. From the twigs the frigate birds make their nests. (Judd.)

For previous introduction see S. P. I. No. 54516.

58378. CORYLUS sp. Betulaceæ.

Hazel.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received November 26, 1923.

(No. 10760. Likiang, 1923.) Received without notes.

58379. ACACIA SCORPIOIDES (L.) W. F. Wight. (*A. arabica* Willd.) Mimosaceae.

From Gizeh, Egypt. Seeds presented by the director, horticultural section, Ministry of Agriculture. Received November 28, 1923.

A large proportion of the gum arabic of commerce is furnished by this tree, which is native to northern Africa and southwestern Asia. True gum arabic, however, is said to come only from another species, *Acacia senegal*. The pods and bark of *A. scorpioides* are used for tanning, and the leaves and young pods are sometimes fed to cattle. The wood is hard and durable and is used in India for making tools. (Adapted from *Holland, Useful Plants of Nigeria*, pt. II, p. 288.)

For previous introduction see S. P. I. No. 48063.

58380 and 58381. PHLEUM PRATENSE L. Poaceae. Timothy.

From Malaga, Spain. Seeds presented by Luis Liró Ortiz, director, Agricultural Station, Torrox, through Donald D. Shepard, American consul. Received November 28, 1923.

Local strains introduced for cultural and comparison tests.

58380. From the Estación de Ensayo de Semillas, Madrid.

58381. From the grounds of the Agricultural Experiment Station, La Coruna.

58382. LANSIUM DOMESTICUM Jack. Meliaceae. Langsat.

From Los Banos, Philippine Islands. Seeds presented by J. E. Higgins, professor of agronomy and head of the department, College of Agriculture. Received December 5, 1923.

The langsat or lanzon is reckoned one of the best fruits of the Malayan region. As far as can be ascertained there is no reason why it should not do well in the West Indies, Mexico, Central America, and on the continent of South America as far southward as Ecuador and southern Brazil.

The tree reaches 40 feet in height and has pinnate leaves composed of five to seven elliptic leaflets each 4 to 8 inches long. The fruit varies in form and character, but is generally oval or round, 1 to 2 inches in diameter, velvety and straw colored, with a thick leathery skin inclosing five segments of white, translucent, juicy aromatic flesh and one to three large seeds.

Two distinct kinds are known, one termed langsat and the other duku, or doekoe. Choice seedling forms occur in both and should be propagated by some vegetative means.

58383. AMYGDALUS PERSICA L. (*Prunus persica* Stokes.) Amygdalaceae.

Peach.

From Yih sien, Shantung, China. Seeds presented by K. M. Gordon, South Shantung Industrial School. Received December 28, 1923.

The Chinese call this peach *Chiu tao*, or "autumn peach." The fruit is small and very bitter, and the variety is used as a stock on which to graft and bud better varieties. (Gordon.)

58384 and 58385. CASIMIROA spp. Rutaceae.

From Duarte, Calif. Budwood presented by W. A. Spinks. Received December 5, 1923.

58384. CASIMIROA sp.

Coleman. This has been considered for a number of years the best-flavored sapote of this region. The parent tree grows in the rear of the old Coleman residence in Monrovia, Calif. Some years ago A. L. Smith, of Monrovia, propagated several

58384 and 58385—Continued.

trees from the parent tree. He has a specimen 20 feet high which bears prolifically and regularly. The fruit is attractive in shape, and the tree has sapotes on it nearly all the year. (*Spinks.*)

58385. CASIMIROA sp.

Spinks. A seedling sapote growing on the grounds of W. A. Spinks at Duarte, Calif.

58386 to 58388. PHASEOLUS VULGARIS L. Fabaceae. Common bean.

From Georgetown, British Guiana. Seeds presented by R. D. Rands, United States Department of Agriculture. Received December 3, 1923.

Introduced for pathologists studying bean diseases.

58386. Madeira butter beans.

58387. Madeira spot beans.

58388. Trinidad beans.

58389. EREMOCHLOA OPHIUROIDES (Munro) Hack. Poaceae. Grass.

From Canton, China. Seeds presented by Prof. G. Weidman Groff, Canton Christian College. Received November 26, 1923.

This is the second most common lawn grass in southern China and is recommended as the best lawn grass for that region. Its usual height is 3 or 4 inches, the blades are smooth and soft, and the seed stalks insignificant. The attractive deep-green color is maintained during the winter in southern China if the grass gets a good hold during the summer. Propagation is easily effected by means of runners. (Adapted from *Bulletin No. 25, Canton Christian College.*)

For previous introduction see S. P. I. No. 48566.

58390. ALSTONIA MACROPHYLLA Wall. Apocynaceae.

From Peradeniya, Ceylon. Seeds presented by H. F. Macmillan, superintendent, botanic gardens. Received December 21, 1923.

A shrub or small tree, native to the East Indies and the Philippines, introduced for testing by rubber specialists. Most of the members of the family to which this species belongs contain milky latex.

58391 and 58392. LARIX spp. Pinaceae. Larch.

From Dorpat, Esthonia. Seeds presented by Franz Boerner, botanic garden, University of Dorpat. Received December 21, 1923.

58391. LARIX DAURICA Turcz.

A larch from Manchuria and southeastern Siberia, sometimes as much as 70 feet in height. In many sections it is superior to the common European larch as a park tree. In the spring the young cones are very attractive because of their bright-pink color.

58392. LARIX SIBIRICA Ledeb.

A very tall larch, at times reaching a height of 120 feet, native to northeastern Russia and Siberia. It has a straight slender trunk and short, rather ascending branches. It is closely related to the common European larch.

58393 to 58396.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 3, 1923. Notes by Mr. Rock.

58393 to 58396—Continued.

58393. *ANEMONE DEMISSA* Hook. f. and Thoms. Ranunculaceæ.

(Saba. September, 1923.) A lovely alpine plant common in limestone soil on all of the mountain meadows of the Likiang Snow Range at altitudes of 11,000 to 13,000 feet and higher. The leaves are in basal rosettes, and the large white flowers are in many-flowered umbels.

58394. *CASTANOPSIS DELAVAYI* Franch. Fagaceæ.

(No. 10798. September, 1923.) A semideciduous tree 50 to 70 feet tall, with a trunk 4 to 6 feet in diameter, which grows on a limestone range north of Likiang at an altitude of 8,200 feet. It is also quite common on the Yangtze north of Likiang at Tungshan, Shiku, and Hgaza. The glaucous, glabrous leaves are serrate on the upper halves. The fruits are borne in axillary spikes, with 10 to 20 in each spike, and the burs are covered with concentric bands bearing short sharp spines. The fruits are small, with a single ovate to conical nut about half an inch long, inclosing a sweet, edible kernel. This is one of the finest and hardiest timber trees of this region.

58395. *INCARTILLEA GRANDIFLORA BREVIFES* Sprague. Bignoniaceæ.

(No. 8991. Saba. September, 1923.) A stemless plant found in limestone soil on all of the mountain meadows of the Likiang Snow Range at altitudes of 9,500 to 12,000 feet, where it is the first to flower in early spring. The dark-green glossy leaves are lyrate and pinnately cut, and the large flowers, 2 to 3 inches across, are deep magenta purple with yellow throats.

58396. *MECONOPSIS RUDIS* Prain. Papaveraceæ.

(No. 9840. September, 1923.) A plant 1 or 2 feet tall which thrives in loose limestone gravel, in company with *Meconopsis integrifolia*, on the Likiang Snow Range at an altitude of about 13,000 feet.

58397. *LESPEDEZA STRIATA* (Thunb.) Hook. and Arn. Fabaceæ.

Numbered December, 1923.

In 1919 J. B. Norton visited Japan as an agricultural explorer of the United States Department of Agriculture. Among the seeds he brought back were those of a strain of *Lespedeza striata* collected near the city of Kobe. This strain proved to be an unusually strong grower and in tests at Hartsville, S. C., has outgrown both the common *lespedeza* (*L. striata*) of the South and the newly introduced Korean *lespedeza* (*L. stipulacea*). At Arlington Experiment Farm, Rosslyn, Va., the growth of the Kobe and of the Korean varieties has been about the same, but the former makes a finer, more leafy growth and is therefore probably the better forage crop.

The Kobe *lespedeza* does not seed as early as the Korean and at Arlington farm has made a smaller seed crop than the latter. It will therefore probably not reproduce in the North. In habit, leaf shape, and size the Kobe strain is just like the common *lespedeza*, but it grows to a larger size. (A. J. Pieters, Bureau of Plant Industry.)

58398 to 58402. *PRIMULA* spp. Primulaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 3, 1923. Notes by Mr. Rock.

58398. *PRIMULA BULLEYANA* Forrest.

(No. 8988. Heshwe. September, 1923.) A very striking species 2 to 3 feet high, found only in boggy meadows at Heshwe, on the eastern slope of the Likiang Snow Range, at an altitude of about 11,000 feet. The deep reddish orange flowers, brownish crimson in bud, are slightly fragrant.

58398 to 58402—Continued.

58399. *PRIMULA POISSONT* Franch.

(September, 1923.) One of the hardiest primroses from this region; it is confined to swampy meadows or even to the gravelly beds of shallow brooks on the Likiang Snow Range at altitudes of 8,000 to 10,000 feet. The flowers, with crimson-lake corollas and yellow throats, are in candle-bralike spikes.

58400. *PRIMULA PULCHELLA* Franch.

(No. 8682. Saba. September, 1923.) A handsome primrose growing in limestone soil in rather moist meadows on the eastern slopes of the Likiang Snow Range at an altitude of 11,000 feet. The lanceolate leaves are yellowish beneath, and the large flowers are bluish purple.

58401. *PRIMULA SINOPURPUREA* Balf. f.

(September, 1923.) A very ornamental species about 2 feet in height, found in moist meadows on the western slopes of the Likiang Snow Range at an altitude of 13,000 feet or more. The linear leaves are bright green above and golden yellow beneath, and the purplish red flowers are borne in dense umbels. The flowers appear in May and June and the fruits in early September.

58402. *PRIMULA VINCIFLORA* Franch.

(No. 8394. September, 1923.) A plant about 15 inches high which loves moist meadows and shady situations on the edges of fir and spruce forests on the eastern slopes of the Likiang Snow Range at an altitude of about 12,000 feet. The leaves are elliptical and dull green, and the large flowers, resembling those of *Vinca*, are a deep indigo blue.

58403 and 58404.

From Para, Brazil. Seeds presented by Godfrey Davidson. Received December 13, 1923. Notes by Mr. Davidson.

58403. *ARISTOLOCHIA* sp. Aristolochiaceæ

This appears to be a new species.

58404. *NYMPHAEA* sp. Nymphaeaceæ.

Water lily.

A very attractive water lily; the flowers are white, shaded with pink, and delightfully fragrant.

58405. *PRIMULA SINO-DENTICULATA* Balf. f. Primulaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 7, 1923.

(No. 9617. September, 1923.) One of the earliest primroses of this vicinity, flowering in February on dry grassy slopes of the Likiang Snow Range at altitudes of 7,000 to 11,000 feet. It is likewise distributed from the Tengyueh Mountains to north of Likiang and beyond the Yangtze on Haba Shan. The flowers, in dense globose heads, are deep blue with a slight purplish tinge. (Rock.)

58406. *CUCUMIS* sp. Cucurbitaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received December 12, 1923.

Kondol-nak. I collected these seeds on a recent trip to Tanjay, island of Negros. The fruits are like miniature watermelons in shape and color, averaging 5 centimeters (2 inches) in length. The flesh is edible, though of little value, but the plant might be serviceable for plant breeders who are working to get wilt-resistant cucumbers and watermelons. The fruits remain in good condition on the vines for some weeks and so may be of ornamental value in Florida. (Wester.)

58407. *MICHELIA* sp. Magnoliaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received November 7, 1923.

(No. 10661. Nguluken. September 2, 1923.) A beautiful shrub trained to form an arbor at the Lama temple, which is at an altitude of 9,500 feet on the Likang Snow Range. The numerous white, fragrant flowers, about the size of a silver dollar, are in the leaf axils, the leaves are leathery and dark green, and the buds are silky brown. The black seeds, inclosed in a scarlet aril, are in capsules. (Rock.)

58408 to 58412.

From Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received December 12, 1923.

58408. *ANNONA DIVERSIFOLIA* Safford. *Annona*.
Llama.

For previous introduction and description see S. P. I. No. 58030.

58409. *CERATODAMIA MEXICANA* Brongn. *Cycadaceæ*.

A handsome cycad from southeastern Mexico, with a short, thick, ovoid trunk, which is crowned with a whorl of rich dark-green pinnate leaves several feet in length. An excellent decorative plant, which is best grown in sandy loam.

58410 to 58412. *MIMOSA* spp. *Mimosaceæ*.

These are fine ornamental species growing in very sandy soil. (Purpus.)

58410. *MIMOSA SOMNIANS* Humb. and Bonpl.

A tropical American mimosa, usually herbaceous but often somewhat shrubby, armed with a few short spines and having white or pinkish flowers.

58411. *MIMOSA ASPERATA* L.
No. 6.

58412. *MIMOSA* sp.
No. 10.

58413 to 58424.

From Ladakh, Kashmir, India. Seeds collected by H. T. Cowling at the request of H. V. Harlan, Bureau of Plant Industry. Received December 7, 1923. Notes by Mr. Cowling.

58413. *BRASSICA* sp. *Brassicaceæ*.

(No. 4.) A plant from which the Ladakh natives obtain an oil; collected at 15,000 feet altitude.

58414. *ERUCA SATIVA* Hill. *Brassicaceæ*.
Roquette.

For previous introduction see S. P. I. No. 46501.

58415. *HORDEUM VULGARE PALLIDUM* Seringe.
Poaceæ. Six-rowed barley.

(No. 2.) Tibetan barley from an altitude of 10,000 to 13,500 feet.

58416 to 58418. *HORDEUM VULGARE COELESTE* L. *Poaceæ*.
Naked barley.

58416. (No. 12.) From Himsa Kharbu.

58417. (No. 1.) Collected at an altitude of 14,000 feet.

58418. (No. 13.) From Jhirla.

58419. *LATHYRUS SATIVUS* L. *Fabaceæ*.
Bitter vetch.

(No. 3.) Collected at an altitude of 11,000 to 13,000 feet.

58420 and 58421. *MEDICAGO SATIVA* L. *Fabaceæ*.
Alfalfa.

58420. (No. 5.) Collected at an altitude of 11,500 to 15,000 feet.

58413 to 58424—Continued.

58421. (No. 3.) A type raised in Ladakh for sheep and horses.

58422. *PISUM SATIVUM* L. *Fabaceæ*. *Pea*.
(No. 9.) Collected at an altitude of 11,500 to 13,000 feet.

58423. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.)
Poaceæ. Common wheat.

(No. 10.) Collected at an altitude of 11,500 to 14,000 feet.

58424. *VICIA FABA* L. *Fabaceæ*. Broad bean.
(No. 6.) Collected at an altitude of 11,500 to 13,000 feet.

58425 to 58427.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 12, 1923. Notes by Mr. Rock.

58425. *MECONOPSIS DELAVAYI* Franch. *Papaveraceæ*.

(No. 9377. September, 1923.) This is one of the prettiest blue poppies of the Likang Snow Range, where it grows in moist meadows and on gravelly slopes at altitudes of 11,000 to 12,500 feet, usually in small groups of 20 or more. The plants are 6 to 10 inches in height, with large drooping purplish indigo-blue flowers.

58426. *PRIMULA DRYADIFOLIA* Franch. *Primulaceæ*.

(No. 9362. September, 1923.) A very handsome, rather uncommon primrose which forms cushions in moist rocky places on the eastern slopes of the Likang Snow Range at an altitude of 15,000 feet. The plant is only 4 or 5 inches high, with spatulate leaves, golden below, and large rich-crimson purple-tinged flowers, which appear from June to August.

58427. *TROLLIUS* sp. *Ranunculaceæ*.

(No. 9651. September, 1923.) A very showy plant about 2 feet high which grows in moist alpine meadows on the eastern slopes of the Likang Snow Range at altitudes of about 12,000 feet, also on Haba Shan, north of the Yangtze bend. The leaves are basal, and each plant bears about 10 large deep golden-yellow flowers 2 inches or more in width.

58428 to 58431.

From Asnieres, Seine, France. Seeds presented by René Bourgeois. Received December 29, 1923.

58428. *PEUCEDANUM OSTRUTHIUM* (L.) Koch.
Apiaceæ.

A perennial herb native to the French Alps. The acid aromatic root is utilized for the preparation of some kinds of Swiss cheese. (Adapted from Mueller, *Select Extra-Tropical Plants*, p. 366.)

For previous introduction see S. P. I. No. 52860.

58429 and 58430. *PHASEOLUS VULGARIS* L. *Fabaceæ*.
Common bean.

These are considered by Mr. Bourgeois to be the best stringless beans in France.

58429. Var. *Phoenix*. 58430. Var. *Progres*.

58431. *RUMEX ALPINUS* L. *Polygonaceæ*. Sorrel.

The leaves are eaten like spinach, according to Mr. Bourgeois, and an infusion of the roots is used as a cough remedy.

58432 to 58434. *MUSA* spp. *Musaceæ*.
Banana.

From Honolulu, Hawaii. Shoots presented by Willis T. Pope, horticulturist, Hawaii Agricultural Experiment Station. Received December 28, 1923.

58432 to 58434—Continued.

58432. *MUSA FEHI* Bert.

Fehi banana.

Fehi. An upright-fruiting Hawaiian variety with red fruits. The young shoots are very long and slender. (Pope.)

For previous introduction see S. P. I. No. 54673.

58433 and 58434. *MUSA PARADISIACA SAPIENTUM* (L.) Kuntze.

58433. *Lady's-Finger*. The Hawaii Experiment Station obtained its first offshoot of the Lady's-Finger variety March 21, 1912, from E. W. Rowell, since deceased, who lived on Vineyard Street, Honolulu. The station records give no information as to where the original plants in Hawaii came from. The plant is well known in Costa Rica, Jamaica, and British and French Guiana.

The Lady's-Finger banana is generally described as a variety of superior flavor, but on account of tenderness is a poor shipper. W. Fawcett in a recent publication, "The Banana," says that in British Guiana, where there has been great loss, ranging from 25 to 75 per cent of the Jamaica variety (Blue-fields), from the fungus disease known as "Panama disease," the Lady's-Finger has not been attacked.

Plant: At maturity of fruit the plant is about 20 feet tall, trunk rather slim; withstands considerable wind, indicating good root system. With good culture, offshoots are fairly abundant; outer trunk sheaths appear dark with reddish brown streaks. Foliage: Dark green, leaf petioles greenish with edges tinged light yellow; blade averages about 7 feet in length, 14 inches wide, dark green above, dull green below. Flowers: Terminal spike on long stout flower stalk, which begins to turn downward on emerging from the trunk; spathe greenish, bracts which cover undeveloped flower hands purplish and with frosted bloom outside, reddish brown inside; floral parts pale yellow with calyx split at margin into four or five parts which are bright yellow and curved outward. Fruits: Bunch long, slim, very compact. Average weight of Hawaiian-grown specimens 36 pounds, 10 to 12 hands; number of bananas to the hand vary from 13 to 20 from extreme to base; number of bananas to the bunch, usually over 200. Individual bananas 4 to 5 inches long, spindle shaped, apex beaked, attached end of stem three-fourths to 1 inch long, skin light yellow, thin, tender; pulp, yellow, melting, of good subacid flavor, placenta of 3-celled ovary very rudimentary. (Pope.)

58434. *Popoulu*. A well-known variety of cooking banana, common in the Honolulu markets. The plant is of medium height. The stem is green with a slight tendency to pinkish tints on the petioles. The scape is rather slender; the bunch itself is of medium size. There are 8 to 10 fruits per hand. The fruits are short, thick, rounded, and blunt at the ends. This banana is of good quality when cooked; the flesh is firm and sweet. Other members of the Popoulu group are: *Kaio*, *Hua moa*, *Moa*, *Nou*, and *Lahi*. (Plant World, vol. 21, p. 6.)

58435 to 58441.

From Tientsin, China. Seeds presented by J. C. Huston, American consul in charge. Received November 28, 1923. Notes by Mr. Huston.

58435. *Gossypium* sp. Malvaceae. Cotton.

White cotton from Chinghsien, which is sown the latter part of April and ripens the latter part of October. The average yield per mow (about one-sixth of an acre) is 100 catties (approximately 800 pounds per acre).

58435 to 58441—Continued.

58436. *MEDICAGO SATIVA* L. Fabaceae. Alfalfa.

From Tientsin, where it is sown early in July. It matures the following June. The average yield per mow is 2,000 catties (approximately 7 long tons per acre).

58437. *NICOTIANA TABACUM* L. Solanaceae. Tobacco.

From Shaho. Planted the first part of April, transplanted and harvested late in September. The average yield per mow is 100 catties.

58438. *ORYZA SATIVA* L. Poaceae. Rice.

Large, white-bearded water rice, from Tientsin. This variety is sown the latter part of March and harvested the latter part of September. The average yield per mow is 2 piculs (approximately 1,600 pounds per acre).

58439. *SOJA MAX* (L.) Piper. (Glycine hispida Maxim.) Fabaceae. Soy bean.

Large black beans from Chinghsien; sown the latter part of April and harvested the first part of September. The average yield per mow is 1 picul (approximately 800 pounds per acre).

58440. *TRITICUM AESTIVUM* L. (T. vulgare Vill.) Poaceae. Common wheat.

From Feihsiang; sown late in September and harvested the following June. The average yield per mow is 1 picul (approximately 800 pounds per acre).

58441. *ZEA MAYS* L. Poaceae. Corn.

Yellow corn from Peking; sown the latter part of April and harvested the latter part of August. The average yield per mow is 1½ piculs (approximately 1,200 pounds per acre).

58442 and 58443. *Gossypium* spp. Malvaceae.

From South America. Seeds presented by E. L. Prizer, Bureau of Plant Industry. Received December 5, 1923.

Collected in Para, Brazil, October 31, 1923. (Prizer.)

Introduced for cotton specialists.

58442. *Gossypium* sp. Cotton.58443. *Gossypium* sp. Kidney cotton.58444. *PERSEA AMERICANA* Mill. (P. gratissima Gaertn. f.) Lauraceae. Avocado.

Growing at the Plant Introduction Garden, Miami, Fla. Numbered December, 1923.

Alfred A. Winslow, consul general at Guatemala City, sent to this office in 1904 an avocado seed which was planted at the Miami Plant Introduction Garden [S. P. I. No. 10978]. It grew into a tree which bore its first fruits in 1911. A few fruits from the first crop were sent to P. H. Rolfs at Gainesville, Fla., with the suggestion that he save the seeds. This was done, and two seedlings were inarched on old trees at Buena Vista, near Miami, where Professor Rolfs owned property at that time. One of these two fruited in 1917 and was called Winslowson by Mr. Simmonds, superintendent of the Miami garden, and young trees of the variety were soon in the hands of nurserymen.

In all probability the variety is a cross between the Guatemalan and West Indian races. The seed parent, Winslow, is a typical Guatemalan, round, small, and having a very hard shell, rough on the exterior. The pollen parent was probably one of the West Indian varieties cultivated at the Miami garden. Winslowson ripens earlier in southern Florida than most of the true Guatemalans, November being its season, though the fruits may hang on the tree as late as January. It is a productive sort and a sturdy grower. The fruit is large, attractive, and of very satisfactory quality.

58445. SANDORICUM KOETJAPE (Burm. f.) Merr. (*S. indicum* Cav.). *Meliaceae*. **Santól.**

From Dominica, British West Indies. Seeds presented by Joseph Jones, Botanic Garden. Received December 22, 1923.

The santól is a Philippine tree which becomes 80 feet tall in its native country, with trifoliate, hairy leaves and greenish yellow or straw-colored flowers. The chief value of the tree resides in its yellowish fruit, which is rounded or flattened, about 2 inches in diameter, with rather large seeds inclosed in translucent, acid, edible pulp of good flavor. When peeled, quartered, and cooked in sirup the fruits make a delicious preserve. (Adapted from *Brown, Wild Food Plants of the Philippines*, p. 88.)

This tree is not suited for cultivation in the United States except perhaps in the warmest parts of Florida. It is of interest for trial in Porto Rico, the Canal Zone, and Hawaii. Its fruit is not rated very high among those which are eaten in the Asiatic Tropics.

58446 to 58454. MUSA PARADISIACA SAPIENTUM (L.) Kuntze. *Musaceae*. **Banana.**

From Honolulu, Hawaii. Shoots presented by Willis T. Pope, horticulturist, Hawaii Agricultural Experiment Station. Received December 22, 1923.

58446. The *Bluefields*, also known as the *Jamaica*, is one of the most important banana varieties from a commercial standpoint. It is the chief banana of the American trade. The plants are large, and the fruits are of fine appearance, of fair flavor, and well placed on the bunch for convenient handling. It is excellent for shipping. (Adapted from *Bulletin 7 of the Hawaii Agricultural Experiment Station*, p. 42.)

58447. The *Brazilian*, as it is known locally, is considered by some authorities as the finest variety in the Hawaiian Islands for eating raw. It was introduced into Hawaii from Tahiti about 1855 and probably is the same as the variety known in Java as *Pisang rajah* or *Pisang medji*, the "dessert banana" of Java. The plant is a vigorous grower, 25 to 35 feet high, roots firmly and withstands winds, ratoons

58446 to 58454—Continued.

freely, and serves as a windbreak for more delicate varieties. The flower end of the fruit is drawn out into a kind of beak. The skin is yellow, easily separating from the fruit. The variety is not satisfactory for shipping because the fruit falls from the bunch. (Adapted from *Bulletin 7 of the Hawaii Agricultural Experiment Station*, p. 45.)

58448. Chamaluco. The plant is from 10 to 15 feet in height, with medium-sized leaves, and when grown in fertile soil the bunches of fruit are rather large. There are two types, one with green and the other with gray fruits. The greater part of these fruits are eaten cooked at the time when other varieties are ripe. (Adapted from *Bulletin 25, Departamento de Agricultura y Trabajo, Porto Rico*, p. 19.)

For previous introduction see S. P. I. No. 55246.

58449. Chinese. A variety introduced from Tahiti into the Hawaiian Islands about 1855. The plant is of very low growth, the fruit of good flavor, and the bunch of large size. It is an excellent variety for shipping, but will not stand as rough handling as the *Jamaica*. (Adapted from *Bulletin 7 of the Hawaii Agricultural Experiment Station*, p. 44.)

58450. Ice Cream.

For previous introduction see S. P. I. No. 55247.

58451. Largo. Introduced into Hawaii from Mexico. The plant is of medium height and the fruits, borne in long-stemmed bunches, have buttery pink flesh of fair flavor. (*J. E. Higgins, Bulletin 7, Hawaii Agricultural Experiment Station*.)

For previous introduction see S. P. I. No. 55250.

58452. Platano.

58453. Porto Rico.

For previous introduction see S. P. I. No. 55251.

58454. Red Cuban. This is the proper name of the largest sized variety of the various red bananas—large both as to plant and fruit. A well-grown bunch has 8 to 10 hands and individual fingers from 2 to 2½ inches in diameter. This is the red banana of commerce. (*Goldsmith H. Williams, Crescent City, Fla.*)

For previous introduction see S. P. I. No. 55252.

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UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 78



Washington, D. C.

Issued November, 1926

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1924 (S. P. I. NOS. 58455 TO 58930)

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INTRODUCTORY STATEMENT

IT IS ALWAYS a difficult matter to select from the large quantity of plant material listed in one of these inventories the introductions which claim special attention. A glance at the general character of the material introduced and the sources from which it has been obtained, however, may assist experimenters to form a clearer idea of the department's plant-introduction activities than will be obtained from a perusal of the vast amount of detailed information which must necessarily accompany a record of this sort.

The plants listed in this, the seventy-eighth Inventory of Seeds and Plants Imported, have been obtained through the two usual channels of plant introduction—the agricultural explorers of the bureau and correspondents abroad.

Few agricultural explorations of recent years have penetrated into such remote regions and have brought to light more promising material than that headed by H. V. Harlan, of the Office of Cereal Investigations, Bureau of Plant Industry. In the present inventory are listed a number of his Abyssinian introductions, obtained at the commencement of his stay in that country. Though Doctor Harlan's principal object was to collect rare types of barley for use in breeding work, his shipments include many other crop plants, such as teff (*Eragrostis abyssinica*, No. 58736), sorghum, wheat, cotton, beans, peas, and flax.

Joseph F. Rock, whose explorations in Yunnan, China, were commenced under the auspices of this office, but later transferred to the National Geographic Society, has continued to send in promising ornamental trees, shrubs, and herbaceous perennials from a region where climatic conditions much resemble those of the northern Pacific coast region of the United States. Among Mr. Rock's introductions which are listed in the present inventory are species of *Abies*, *Picea*, *Tsuga*, and other coniferous trees; rhododendrons, cotoneasters, and other ornamental shrubs; and such herbaceous plants as *Primula* and *Lilium*. Concerning one of the hemlocks (*Tsuga* sp., No. 58510) which he found on the Likiang Snow Range, northern Yunnan, at 10,000 feet altitude, he writes that the tree becomes 80 feet or more high, with a trunk 5 feet in diameter, and he considers it to be the finest of all the species of *Tsuga*.

The department's correspondents abroad, with their customary generosity, have contributed many promising lots of material. R. C. Ching, a young Chinese botanist, who accompanied a recent scientific expedition into Kansu Province, northwestern China, has sent a large collection of rare plants from that

region (Nos. 58518 to 58548). These include wild species of *Pyrus*, *Malus*, and *Prunus*, possibly valuable as stock plants on which to graft some of the cultivated varieties; also cotoneasters, species of *Elaeagnus*, *Berberis*, *Euonymus*, and other ornamental shrubs; and local strains of wheat and barley.

Vicary Gibbs, whose fame as an amateur exhibitor of rare plants is well known throughout the British Isles, has sent from his Aldenham House Gardens 21 species of ornamental shrubs (Nos. 58603 to 58623), many of them sufficiently hardy, in all probability, to permit their cultivation over wide areas in the United States. From the Royal Botanic Gardens, Kew, has come a collection of wild relatives of the onion, for the use of department plant breeders (*Allium* spp., Nos. 58868 to 58886); a similar collection (*Allium* spp., Nos. 58675 to 58691) was presented by the director of the botanic garden at Nancy, France. Prof. D. Bois, of Paris, has forwarded a large collection of leguminous plants and grasses, also for the use of department specialists (Nos. 58692 to 58718). G. H. Cave, curator of the Lloyd Botanic Garden at Darjiling, India, has again contributed seeds of numerous ornamental trees and shrubs of the Himalayan region (Nos. 58901 to 58930).

The Barouni olive (*Olea europaea*) has been reintroduced as No. 58661. Because of its large size and excellent quality for ripe pickling, this variety is meeting with favor among the olive growers of California. It deserves further consideration by commercial growers and also by plant breeders.

The ravages of chestnut blight in the eastern and southern United States and the need of finding a resistant species to replace the rapidly disappearing American chestnut have led to the introduction of numerous strains of the Chinese hairy chestnut, *Castanea mollissima* (Nos. 58602, 58659, 58719 to 58724).

Several new varieties of fig (*Ficus carica*, Nos. 58663 to 58668) have been introduced to enlarge the collection in California, where much attention has been given in past years to procuring the world's best varieties. In connection with the department's plan to test species and varieties of rubber-yielding plants for the purpose of ascertaining if any are suited for commercial cultivation in the southernmost parts of this country and in the American Tropics, *Ecdysanthera utilis* (No. 58496) has been obtained through the courtesy of the director of forestry of the island of Taiwan, and several species of *Landolphia* (*L. ovariensis*, No. 58517, *L. droogmansiana*, No. 58591, and *L. kirkii delagoensis*, No. 58899) have been obtained from Africa, the first two contributed by Frère Gillet, of Kisantu, Belgian Congo, and the last named from I. B. Pole Evans, chief of the division of botany at Pretoria, Transvaal. From New South Wales has been sent the so-called wild plum (*Sideroxylon australe*, No. 58478), which bears fruits containing rich, milky juice which may be a possible source of rubber.

Several valuable strains of wheat have been obtained for the use of American plant breeders, notably Doctor Akerman's varieties from Svalof, Sweden (*Triticum aestivum*, Nos. 58564 to 58567) and Professor Stapledon's collection (*T. aestivum*, Nos. 58559 to 58563) from Aberystwyth, Wales.

Crotalaria anagyroides (No. 58466), sent from the general experiment station at Buitenzorg, Java, should be tried in Florida and other Southern States for green manure. Its leafiness makes it especially desirable, and it is probably harder than some of the other *Crotalaria*s.

Paspalum notatum (No. 58644), a Brazilian forage grass, has been previously introduced under Nos. 37996, 51121, 51262, and 54904. It is proving valuable for pasturage in the South and, on account of its hardiness and sod-forming qualities, should receive increased attention.

The department's efforts to increase the cultivation of the true yams (*Dioscorea* spp.) in the Gulf States are yielding good results. In order to have the best varieties available, numerous introductions have been made in the past. Two varieties (*D. cayenensis*, No. 58625, and *D. rotundata*, No. 58626) from Porto Rico have been reintroduced and are listed in this inventory.

Citrus growers in Florida and California will be glad to try Sir Percy Fitzpatrick's new grapefruit, the Cecily (*Citrus grandis*, No. 58457), a practically seedless variety which originated in South Africa as a sport from Walters, the well-known American variety. A tree of *C. ichangensis*, established at New Orleans from an early introduction, is serving as a source of propagating material for the use of plant breeders who are attempting to develop harder varieties of citrus fruits, since this is considered one of the hardest species of *Citrus* known. Seeds from this tree have now been obtained (No. 58480) for further use by citrus breeders.

A Mexican relative of the iris (*Tigridia pavonia*, No. 58573) presented by Mrs. Zelia Nuttall, of Coyoacan, should appeal to those who care for delicate flowers; although the latter are somewhat short lived, in mass planting the effect of successive flowering is very striking.

Special attention should be directed to *Populus maximowiczii* (No. 58483), a hardy and stately tree from Manchuria, which is proving of great value in the colder and drier areas of the United States where poplars are particularly desirable. The distinctive rugose character of its foliage, which appears more than a week before that of other trees, makes it unique among poplars. Budwood has been presented by A. D. Woeikoff, director of the experiment farm at Echo, Manchuria.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND McKEE,

Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., February 19, 1926.

INVENTORY ¹

58455. JUGLANS REGIA L. Juglandaceæ. Walnut.

From Spain. Seeds presented by Howard Spence, The Red House, Ainsdale, Southport, England. Received January 18, 1924.

These walnuts are from Huelva, Spain, and are supposed to represent the best quality of that region. (Spence.)

58456. MANGIFERA INDICA L. Anacardiaceæ. Mango.

From Nueva Gerona, Isle of Pines, West Indies. Budwood presented by W. H. Snider. Received February 14, 1924.

Baccas. The fruits of this variety weigh about a pound, and the skin is dark, with a lighter cheek, tough and free from blemishes. The flesh is firm, free from fiber, and of rich, pleasing flavor. The seed is of medium size and flat. The tree is not an unusually heavy bearer. (Snider.)

Introduced for trial in the warmest parts of the United States.

58457. CITRUS GRANDIS (L.) Osbeck. Rutaceæ.

From Amanzi, Uitenhage, Cape of Good Hope. Plants presented by Alan Fitzpatrick, Amanzi, at the request of Sir Percy Fitzpatrick, London, England. Received February 12, 1924.

Cecily. This variety originated at Amanzi, as a sport or mutation from the Walters grapefruit. The latter originated in Florida, where it was formerly one of the principal commercial sorts.

Sir Percy in his letter of December 20, 1923, describes this mutant as differing from its parent in being "practically devoid of seeds." If it retains this characteristic in the United States, it will be of much interest to test it alongside our own seedless variety, the Marsh. The transplantation of the Walters grapefruit to South Africa, the development there of a form superior in being nearly seedless, and its return to the United States in this improved condition forms an interesting tale. In

regard to a name for this mutant, Sir Percy writes: "Among ourselves we call it 'Cecily,' after my daughter who had the good fortune to discover it."

58458. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Lausanne, Switzerland. Seeds purchased from G. Martinet, chef, Établissement Fédéral d'Essais et de Contrôle de Semences. Received March 12, 1924.

(No. 1171. A good Mont-Calme selection, derived from a perpetual Berne clover from Ruti (Mattenklee). (Martinet.)

58459 and 58460.

From Port of Spain, Trinidad, British West Indies. Seeds presented by W. G. Freeman, director of agriculture. Received January 28, 1924.

58459. BARRINGTONIA ASIATICA (L.) Kurz. Lecythidaceæ.

A large, handsome East Indian tree with thick, leathery, shining bright-green leaves and very conspicuous flowers with four white petals and numerous crimson-tipped stamens, resembling a brush. The fruit is large and is the shape of a 4-sided pyramid; it is smooth on the outside and contains one seed. The tree forms extensive forests along the shores of some of the Pacific islands. In the Moluccas an illuminating oil is extracted from the seeds, and the dry fruits are gathered by the natives and used as floats for their fish nets. (Adapted from Rock, *The Ornamental Trees of Hawaii*, p. 663.)

For previous introduction, see S. P. I. No. 54963.

58460. COLVILLEA RACEMOSA Boj. Cæsalpiniaceæ.

A leguminous tree 40 or 50 feet high, native to Mauritius and Madagascar, with the general aspect of *Poinciana regia* but with a thicker trunk, reddish gray bark, and more ample foliage. In early spring it bears large, erect racemes of bright-scarlet flowers which make the tree a very showy ornamental.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or related genera. The responsibility for the specific identifications, therefore, must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

58461. AMARANTHUS GANGETICUS L.
Amaranthaceae.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received February 13, 1924.

With its multicolored tops, ranging from pale yellow to dark red in various shades, this variety, known here as haum, is one of the most gorgeous ornamental plants I have ever seen. It is rare in Manila, but it is common in Cebu, where the tender leaves are eaten like spinach. It ought to do well in Florida and possibly in southern California. (Wester.)

For previous introduction, see S. P. I. No. 53896.

58462. RHUS CORIARIA L. Anacardiaceae.

From Palermo, Italy. Seeds presented through Edward I. Nathan, American consul. Received March 22, 1923. Numbered January, 1924.

Immense groves of this species are cultivated in Sicily for the purpose of extracting tannin from the leaves. The product is light and free from discolorations and therefore commands a high price in the world's markets. Large quantities of sumac extract are imported annually into the United States, since it is difficult to obtain from American sumacs extracts which are as clear and as light colored as the Sicilian product. The establishment of commercial plantings of *Rhus coriaria* in this country seems worthy of serious consideration.

58463. BERBERIS REPLICATA W. W. Smith. Berberidaceae. Barberry.

From Wisley, Ripley, Surrey, England. Plants presented by Fred J. Chittenden, director, Royal Horticultural Society Gardens. Received February 16, 1924.

An evergreen barberry originally collected by George Forrest in thickets on the Shweli-Salwin Divide, southwestern China, at an altitude of 11,000 feet. The rather small leaves have recurved margins and are gray beneath. It is an early and profusely flowering species, bearing its blossoms all along the branches in a very attractive fashion, and the deep-crimson berries make it handsome in the fruiting stage. It appears to be quite hardy in England. (Adapted from *The Garden*, vol. 87, p. 186.)

58464. MALUS SYLVESTRIS Mill. (*Pyrus malus* L.). Malaceae. Apple.

From Simla Hills, Punjab, India. Scions presented by S. E. Stokes. Received February 16, 1924.

A russet apple of good size and excellent flavor, greatly appreciated in Simla by the English. The tree, which is a strong grower and heavy cropper, ripens its fruit in October, and we have often been able to keep it until April or May. While in storage the fruit turns to a golden yellow. At the altitude of 7,000 feet in Kotgarh, where this tree grows, many other temperate crops are also grown, such as potatoes, corn, and barley, and such fruits as cherries, plums, and apricots. (Stokes.)

58465. DIOSPYROS DECANDRA Lour. Diospyraceae.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received February 13, 1924.

A wild persimmon from Cochinchina, whose yellow, edible, sweet fruits, about an inch in diameter, are sold in the native markets of the small towns. The tree is large, with spreading branches, and produces excellent heavy timber, which is white marked with black veins; the heartwood is sometimes black.

58466. CROTALARIA ANAGYROIDES H. B. K. Fabaceae.

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, general experiment station, Department of Agriculture, at the request of Charles L. Hoover, American consul, Batavia, Java. Received February 14, 1924.

The crotalarias are tropical leguminous plants, of value for cover crops and green manure, for which purposes they are used in the same manner as cowpeas and velvet beans. Doctor Cramer, in his letter of transmittal, writes that *Crotalaria anagyroides* has proved more desirable than other species in Java, mainly because it produces a larger amount of foliage and the plants remain erect. He says: "It is especially satisfactory at high altitudes and is in such great demand for the tea plantations in the higher mountains that we have to limit our seed distributions to small quantities."

Though cultivated in Java, this species is not native to that part of the world. It is widely distributed in tropical America, where it occurs, according to Grisebach (*Flora of the West Indies*), from Mexico to Peru, and in the West Indies. The same authority states that it is somewhat shrubby in character, with erect puberulous stems and leaves composed of three ovate-lanceolate leaflets.

58467. SPATHODEA NILOTICA Seem. Bignoniaceae.

From Entebbe, Uganda. Seeds presented by the chief forestry officer, forestry department. Received February 14, 1924.

Spathodea campanulata is proving to be an ornamental tree of unusual value for southern Florida. For this reason the arrival of another member of this genus is a matter of considerable interest. *S. nilotica*, which is native in the upper Nile Valley and the Belgian Congo, is a bushy tree reaching about 20 feet in height. The leaves, which are opposite and composed of 9 to 15 leathery leaflets, are covered beneath with dense, short hairs. The scarlet flowers, produced in short, compact terminal clusters, are said to resemble closely those of *S. campanulata*, which means that they are strikingly beautiful. The behavior of this tree in southern Florida will be watched with interest.

For previous introduction, see S. P. I. No. 47502.

58468 to 58470.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 18, 1924. Notes by Mr. Rock.

58468. ABIES FORRESTII Craib. Pinaceae. Fir.

(No. 10673. December, 1923.) A handsome tree 70 to 80 feet in height with a trunk 2 feet or more in diameter, common on moist mountain meadows and steep limestone slopes of the Likiang Snow Range at altitudes ranging from 10,000 to 13,500 feet. The needles are white beneath, and the cones are purplish blue to black.

58469. ABIES sp. Pinaceae. Fir.

(No. 10887. December, 1923.) A tree 60 to 80 feet high with a trunk 2 to 3 feet in diameter, found along meadows below Ladsakodjo, on the eastern slopes of the Likiang Snow Range, at an altitude of about 13,000 feet. The needles are silvery beneath, the large, ovoid cones are bluish black, and the scales have a central pointed spur which is absent in *Abies forrestii*.

58470. PICEA sp. Pinaceae. Spruce.

(No. 10888. December, 1923.) A tree 60 to 80 feet with long drooping branches, found back of Nguluke, growing wild around the village temple, at an altitude of 9,600 feet in the Likiang Snow Range. The needles are short, the cones are larger, and the scales broader than No. 10890 [S. P. I. No. 58498].

58471. SOLANUM DEMISSUM × TUBEROSUM. Solanaceæ.

From Wolverhampton, England. Tubers presented by F. W. Keay, Wolverhampton, through William Stuart, Bureau of Plant Industry. Received February 2, 1924.

A cross between *Solanum demissum* and the Paterson's Victoria variety of the potato.

For use in potato-breeding experiments.

58472. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Valence, Rhone, France. Seeds purchased from Tézier Frères. Received March 12, 1924.

Locally grown clover from Nîmes, Gard. Introduced for testing by clover specialists.

58473. VIBURNUM HANCEANUM Maxim. Caprifoliaceæ.

From Ottawa, Canada. Seeds presented by J. Adams, botanist, Central Experimental Farm, Department of Agriculture. Received February 18, 1924.

A hardy, bushy, deciduous shrub from southeastern China, where it becomes 6 to 10 feet in height. The branches are mostly horizontal, and the roundish, slightly toothed, sharp-pointed leaves are dull dark green above and pale grayish beneath. The inflorescence consists of a flat umbel 2 to 4 inches across; the center is filled with small, perfect, inconspicuous flowers, surrounded by a few large white imperfect flowers about an inch wide. The roundish egg-shaped fruits are at first coral red and finally blue-black.

Introduced for horticulturists engaged in small-fruit breeding.

58474. AMYGDALUS COMMUNIS × PER-SICA. Amygdalaceæ.**Peach-almond hybrid.**

From Benenden, Kent, England. Budwood presented by Collingwood Ingram. Received February 20, 1924.

This "peach-almond" hybrid is very vigorous. The original scion came from Quinta de Seixo in the upper Douro District, Portugal. The fruit appears to be intermediate in characters between the peach and the almond. (Ingram.)

58475. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Wellington, New Zealand. Seeds presented by A. L. Cockayne, director of the fields division, Department of Agriculture. Received February 20, 1924.

"*Runciman's* red clover. This has been thoroughly tested and may be regarded as the only true perennial strain of red clover in New Zealand." (New Zealand Journal of Agriculture, vol. 22, p. 290.)

Introduced for testing by clover specialists.

58476 and 58477. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Copenhagen, Denmark. Seeds purchased from L. R. M. Larsen, Danish Royal Agricultural Society. Received February 23, 1924.

Both of these are Danish strains which in this country have given considerably greater yields than foreign seeds. (Larsen.)

Introduced for agronomists engaged in clover breeding.

58476. *Tystofte* No. 40, an early strain.

58477. *Hersnap*, a late strain.

58478. SIDEROXYLON AUSTRALE (R. Br.) Benth. and Hook. Sapotaceæ.

From Sydney, New South Wales. Seeds presented by J. H. Maiden, director, botanic gardens. Received February 12, 1924.

A tree, sometimes becoming of considerable size, from southeastern Australia, where it is called "wild plum" or "black apple" because of the fruit. The latter is the size of a small apple; the rich, milky juice resembles cream in taste, but the flesh is coarse and insipid. The pale-yellow wood is close grained, handsomely veined, and suitable for cabinetwork, although it requires careful seasoning. This species is now introduced for testing the sap as a possible source of rubber.

For previous introduction, see S. P. I. No. 44072.

58479. COLOCASIA ESCULENTA (L.) Schott. Araceæ. Taro.

From Canton, China. Tubers presented by F. A. McClure, Canton Christian College. Received May 22, 1922. Numbered January, 1924.

Pan Long Oo. Introduced for cultural and comparison tests.

58480. CITRUS ICHANGENSIS Swingle. Rutaceæ.

From New Orleans, La. Seeds presented by E. Foster. Received February 19, 1924.

These seeds are from a tree sent to New Orleans from the Arnold Arboretum, Jamaica Plain, Mass. The trees at the arboretum were raised from seeds collected in China several years ago from trees which appeared to show unusual frost resistance. The general character of the fruit is much like the bitter Seville orange used in the manufacture of Scotch marmalade, being very rough, with a thick, reddish skin. It is not very juicy, and the seeds are large. The species, because of its unusual hardness, will be useful for breeding purposes. (Foster.)

A spiny shrub or small tree, 5 to 15 feet high, native to central and southwestern China. It differs from other members of the genus chiefly in its very large, thick seeds and its slender leaves, which are four to six times longer than broad. It is also one of the hardiest species of Citrus known.

58481. ATLANTHUS VILMORINIANA Dode. Simaroubaceæ.

From Paris, France. Plant purchased from Vil-morin-Andrieux & Co. Received February 26, 1924.

Although this species is closely related to the tree of heaven (*A. altissima*), well known in many parts of the United States, it is distinguished by the numerous soft spines on the young branchlets and by the very downy leaflets. The main leaf-stalk is often rich red and occasionally spiny like the leaflets. The inflorescence is sometimes a foot or more across, and the samara, or key, is 2 inches long. The tree is native to Szechwan, western China.

58482. RUMEX ABYSSINICUS Jacq. Polygonaceæ.

From Java. Seeds presented by W. A. Orton, Bureau of Plant Industry. Received February 23, 1924.

As a source of greens during the hot summer months, the Abyssinian Rumex appears to have merit. Seeds may be sown in the greenhouse or hotbed in early spring and the plants set out as soon as the soil can be worked. The plants grow 7 or 8 feet in height and continue to yield greens until cut down by frost in late autumn. The leaves are cooked and served in the same manner as spinach, but care must be taken to change the water, in cooking, to eliminate excessive acidity.

For previous introduction, see S. P. I. No. 56486.

58483 to 58487.

From Echo, Kirin Province, Manchuria. Budwood presented by A. D. Woeikoff, director, experimental farm. Received March 3, 1924.

58483. *POPULUS MAXIMOWICZII* A. Henry. Salicaceae. Poplar.

A handsome, stately, Manchurian poplar, which is said to reach enormous size in its native country. According to John Dunbar, assistant superintendent, department of parks, Rochester, N. Y., it thrives on dry gravelly soil, where Norway spruce and white ash fail to survive, and is one of the few large deciduous exotic trees which can be recommended for general planting in the Northern States. It is a rapid grower, increasing in height 3 to 5 feet a year for the first eight years, and has rugose leaves resembling those of *Rosa rugosa*. The foliage appears about 10 days before that of other trees, and in Manchuria it remains green throughout the summer.

For previous introduction, see S. P. I. No. 51877.

58484. *POPULUS SUAVEOLENS PRZEWALSKII* (Maxim.) C. Schneid. Salicaceae. Poplar.

This is a rather common tree in the towns and villages throughout northern China; it is easily distinguished by its close, compact habit. (Woeikoff.)

For hot, dry climates this poplar is said to be especially valuable; although it is comparatively slow growing, eventually it becomes a large tree and it also has distinct merit as an ornamental. The rather small, oval leaves are prominently whitened beneath.

58485 to 58487. *SALIX* spp. Salicaceae. Willow.

58485. *SALIX RORIDA* Lacksch.

This is a giant among willows. In the river valleys of Manchuria it reaches a height of 150 feet, with an enormous circumference. (Woeikoff.)

58486. *SALIX* sp.

A hybrid of *Salix rorida*. (Woeikoff.)

58487. *SALIX* sp.

A small willow up to 30 feet in height, growing on rocky slopes. (Woeikoff.)

58488 to 58495.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received February 1, 1924.

58488. *CORYLUS FEROX* Wall. Betulaceae. Hazel.

A wild hazel from Sikkim, India, whose small nuts, closely resembling the common hazelnut in taste, are much prized by the natives. The tree, 20 feet in height, grows at altitudes of 8,000 to 10,000 feet. The wood is pinkish white, even grained, and moderately hard.

For previous introduction, see S. P. I. No. 49626.

58489. *FRAGARIA DALTONIANA* J. Gay. Rosaceae. Himalayan strawberry.

A wild relative of the cultivated strawberries which comes from alpine pastures of the Sikkim Himalayas at altitudes of 10,000 to 15,000 feet. It is a stoloniferous perennial with solitary white flowers and bright-scarlet, insipid fruits an inch long and half as broad.

Introduced for testing by strawberry specialists.

For previous introduction, see S. P. I. No. 52679.

58490. *LILIUM THOMSONIANUM* (D. Don.) Lindl. (*L. roseum* Wall.). Liliaceae. Lily.

A lily of unusual appearance, suggesting in habit *Frillaria*, *Ornithogalum*, and *Hosta*. The erect stem is a foot and a half high, and the nar-

58488 to 58495—Continued.

row, grasslike leaves are mostly crowded at the base of the stem. The pale mauve or rosy bell-shaped drooping flowers, with deep-purple anthers, are an inch and a half long and are in a terminal raceme containing 8 or 10 flowers. The species is native to mild-wintered regions of the Himalayas from western China to northern India.

58491. *MALUS SIKKIMENSIS* (Hook. f.) Koehne (*Pyrus sikkimensis* Hook. f.). Malaceae.

The Sikkim crab is a small tree, rather bushy in habit, which grows wild in the interior of Sikkim, India, at altitudes up to 10,000 feet. The narrowly oval leaves are very woolly beneath, and the white flowers, rosy in the bud, are about an inch across and are borne very freely in 4 to 8 flowered clusters. The pear-shaped fruits are dark red with paler dots and are about half an inch wide. This species is distinguished from the Siberian crab (*Malus baccata*) by its low, spreading habit, excessive development of spurs on the stems, the more woolly leaves, and the smaller fruits.

For previous introduction, see S. P. I. No. 52684.

58492. *PANAX PSEUDOGINSENG* Wall. (*Aralia pseudoginseng* Benth.). Araliaceae.

An herbaceous perennial from the subtropical mountainous regions of Nepal. The tuberlike rootstock is mucilaginous and slightly aromatic, and the erect, purplish stem bears three or four palmate radical leaves and a number of roughly hairy upper leaves. The small, white flowers, in umbellate heads, are followed by globose berries which are half black, half red, or entirely red. The above note is taken from Wallich, *Plantæ Asiaticæ Rariores*, vol. 2, p. 30.

For previous introduction, see S. P. I. No. 49644.

58493. *PRUNUS RUTA* Hook. f. Amygdalaceae.

A Himalayan wild cherry tree 15 to 20 feet high, with small pink flowers and red, ellipsoid, fleshy fruits.

Introduced for pomologists engaged in the breeding of stone fruits.

58494. *RIBES GRIFFITHII* Hook. f. and Thoms. Grossulariaceae.

A wild currant from the subtropical Himalayas, where it grows at altitudes of 10,000 to 13,000 feet, forming an erect shrub about 8 feet in height. The leaves are broadly heart-shaped and 5-lobed, and the red, sour berries are in long, pendent clusters about 9 inches in length.

Introduced for pomologists engaged in small-fruit breeding.

For previous introduction, see S. P. I. No. 49651.

58495. *RUBUS CALYCINUS* Wall. Rosaceae.

A wild raspberry from the temperate slopes of the Himalayas and of the Khasi Hills, India, where it grows as a creeping herbaceous perennial with kidney-shaped leaves and small scarlet fruits containing normally but a few drupelets.

Introduced for pomologists engaged in small-fruit breeding.

For previous introduction, see S. P. I. No. 41675.

58496. *ECDYSANThERA UTILIS* Hay. and Kaw. Apocynaceae.

From Taihoku, Taiwan, Japan. Seeds presented by R. Kanehira, director, experimental station of forestry. Received March 19, 1924.

This plant, a climbing shrub of northern Taiwan, does not appear to be very well known outside of its native habitat. If its value may be judged by the results of an analysis made at the Imperial Institute, London, of a sample of rubber from that region, it would appear to be a promising acqui-

tion. Not only on account of its economic value is this true but also because the climatic conditions of Taiwan more closely resemble those of southern Florida than do those of the native countries of many other of the better known rubber plants now being assembled for experimental purposes at the Chapman Field Plant Introduction Garden in southern Florida.

Analyses of sample from Taiwan (per cent): Moisture, 1.3; caoutchouc, 85.3; resin, 5.0; proteid, 2.1; insoluble matter, 6.3. (*Alfred Keys, Bureau of Plant Industry.*)

58497. COFFEA LIBERICA Bull. Rubiaceæ.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, bureau of agriculture. Received March 19, 1924.

Introduced for horticulturists engaged in coffee-growing experiments.

For previous introduction, see S. P. I. No. 53460.

58498 to 58511.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 27, 1924. Notes by Mr. Rock.

58498. PICEA sp. Pinaceæ. Spruce.

(No. 10890. Mahaongputze. December, 1923.) A handsome tree 50 to 70 feet, sometimes taller, found in rich, black soil in moist meadowlands on the eastern and western slopes of the Likang Snow Range, at an altitude of 12,000 feet. This species is less graceful and not so slender as *Picea likiangensis*; it has brown, ovoid cones.

58499. ABIES sp. Pinaceæ. Fir.

(No. 10886. December, 1923.) A fine tree 60 feet or more in height, with a trunk 2 or 3 feet in diameter, which grows along stream beds on the eastern slopes of the Likang Snow Range at an altitude of about 11,000 feet. The needles are not silvery beneath, and the greenish white cones are erect.

58500. KETELEERIA sp. Pinaceæ.

(No. 10892. Sungkwe. December, 1923.) A pale-green tree 30 to 40 feet high, with stiff branches and large needles. The straw-colored cones are 10 to 20 centimeters (4 to 8 inches) long. This species grows in dry regions south of Likang at about 10,000 feet altitude.

58501. PICEA LIKIANGENSIS (Franch.) E. Pritz. Pinaceæ. Spruce.

(No. 10889. Zinako. December, 1923.) A tree 60 to 80 feet tall, with long, slender, drooping, very graceful branches and brown oblong cones, found in moist meadowland on the western slopes of the Likang Snow Range at 12,000 feet altitude. Above this altitude it is replaced by *Abies*, while *Tsuga* occurs lower down.

58502. PICEA sp. Pinaceæ. Spruce.

(No. 10888. December, 1923.) A tree 60 to 80 feet tall, with long, drooping branches, found back of Nguluke, growing wild around the village temple, at an altitude of 9,600 feet, Likang Snow Range. The needles are short, the cones are larger, and the scales broader than No. 10890 [S. P. I. No. 58498].

For previous introduction, see S. P. I. No. 58470.

58503. PRIMULA sp. Primulaceæ. Primrose.

(Mount Kenichunpu. October, 1923.) An herbaceous plant about 1 foot high, from alpine meadows of the Salwin-Irrawaddy Divide, Tibetan border, at about 13,000 feet altitude. The leaves are elliptical and the flowers small and yellow.

58498 to 58511—Continued.

58504. PYRUS sp. Malaceæ. Pear.

(Nos. 8946 and 11347. Litiping. November, 1923.) A very handsome tree 15 feet high, from alpine meadows, at an altitude of 12,000 feet. It has small, elliptic-oval, acute, crenate, pubescent leaves, large umbels of white flowers, and red fruits the size of a pea.

58505 to 58509. RHODODENDRON sp. Ericaceæ.

58505. RHODODENDRON OLEIFOLIUM Franch.

(No. 11219. Chanyutang. October, 1923.) A pink-flowered, shrubby species 1 or 2 feet high, which grows in the Salwin Valley at about 7,000 feet altitude. The narrowly elliptical, glaucous leaves are punctate beneath.

58506. RHODODENDRON sp.

(No. 11228. Mount Kenichunpu. October, 1923.) A red-flowered, shrubby species over 2 feet high, from the Salwin-Irrawaddy Divide, Tibetan border, at an altitude of 13,000 feet. The elliptical, dark pigeon-gray leaves are punctate beneath.

58507. RHODODENDRON sp.

(No. 11229. Mount Kenichunpu. October, 1923.) A very curious creeping plant which grows on rocky slopes, Salwin-Irrawaddy Divide, at about 11,000 feet altitude. The leaves are very small, glossy, and dark green, and the flowers are white with a pinkish tinge.

58508. RHODODENDRON SINO-GRANDE Balf. f. and Smith.

(No. 11239. Mount Kenichunpu. October, 1923.) A tree, 25 to 30 feet in height, found in a fir forest on the Salwin-Irrawaddy Divide, Tibetan border, at an altitude of 13,000 feet. The obovate-oblong leaves, silvery beneath, are 1 or 2 feet long, and the very large, cream-colored flowers are in huge corymbs.

58509. RHODODENDRON sp.

(No. 11241. Sila Pass. October and November, 1923.) A shrub about 2 feet high, found among rocks on the Salwin-Mekong Divide at an altitude of 13,000 feet. The oval, glabrous leaves are glaucous beneath, and the flowers are reddish pink.

58510. TSUGA sp. Pinaceæ. Hemlock.

(No. 10891. December, 1923.) A tree 80 feet or more in height, with a trunk about 5 feet in diameter and spreading branches, which grows at an altitude of 10,000 feet on the eastern slopes of the Likang Snow Range, in dense forests where there is heavy rainfall. The needles are dark green, and the rather large ovoid cones are pale brown. I consider this the finest of all *Tsugas*.

58511. GAULTHERIA sp. Ericaceæ.

(No. 11230. Mount Kenichunpu. October, 1923.) A shrub 2 feet high which grows on the Salwin-Irrawaddy Divide, Tibetan border, at an altitude of 11,000 feet. It has elliptical, serrate leaves and globose, rich-blue berries.

58512. PYRUS sp. Malaceæ. Pear.

From Simla Hills, Punjab, India. Seeds presented by S. E. Stokes. Received February 26, 1924.

This Himalayan wild pear is called "shegal" or "kanth" by the natives. The fruit is bronze colored, perfectly round, and the size of a large cherry. The tree grows extensively in the mountains at altitudes of 4,000 to 8,000 feet. (*Stokes.*)

Introduced for testing as a stock for our cultivated apples and pears.

58513. TELOPEA SPECIOSISSIMA (J. E. Smith) R. Br. Proteaceæ. Waratah.

From Victoria, Australia. Seeds presented by William Laidlaw, acting director, Melbourne Botanic Gardens. Received February 28, 1924.

A very striking, evergreen Australian shrub, about 8 feet high, with irregularly toothed, dark-green leaves 6 inches long, and deep crimson, tubular flowers about an inch long, borne in a dense, globular head surrounded by blood-red bracts 2 or 3 inches in length. The waratah, as this shrub is known in its native land, has come to be recognized as the State flower of New South Wales.

58514 to 58516. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Bucharest, Rumania. Seeds presented by Dr. D. Andronescu, director, Ministerul Agriculturii, through Ely E. Palmer, American consul. Received February 28, 1924. Notes by Doctor Andronescu.

Introduced for testing by clover specialists.

These seeds came from the Government farms in Transylvania, the best clover region in the country.

58514. From Serecia, District of Fagaras.

58515. From Comana, District of Fagaras.

58516. From Boiu, District of Tarnava Mica.

58517. LANDOLPHIA OWARIENSIS Beauv. Apocynaceæ.

From Kisanu, Belgian Congo. Seeds presented by Frère J. Gillet. Received February 28, 1924.

An enormous tropical creeper, found throughout the Belgian Congo, which attains a length of over 300 feet and a stem diameter of about 15 inches. The wedge-shaped elliptic leaves are 2 to 4 inches long. While the rubber-producing latex obtained from this species is often of good quality, frequently individual specimens yield latex which is practically useless. (Adapted from *Wildeman and Gentil, Lianes Caoutchoutifères du Congo.*)

Introduced for testing as a source of rubber.

58518 to 58548.

From Kansu, China. Seeds presented by R. C. Ching. Received February 16, 1924.

These seeds were collected on a botanical expedition into Kansu, northwestern China. (*Ching.*)

58518. *ACER* sp. *Aceraceæ. Maple.*

No. 1009.

58519 to 58522. *BERBERIS* spp. *Berberidaceæ. Barberry.*

58519. *BERBERIS* sp.

No. 86.

58520. *BERBERIS* sp.

No. 961.

58521. *BERBERIS* sp.

No. 1029.

58522. *BERBERIS* sp.

58523. *CORYLUS* sp. *Betulaceæ. Hazel.*

No. 1023.

58524. *COTONEASTER* sp. *Malaceæ.*

No. 52.

58525. *COTONEASTER* sp. *Malaceæ.*

No. 1004.

58526. *CRATAEGUS* sp. *Malaceæ.*

No. 1017.

58518 to 58548—Continued.

58527. *DAPHNE* sp. *Thymeliaceæ.*

No. 794.

58528. *ELAEAGNUS* sp. *Elæagnaceæ.*

No. 179.

58529. *EUONYMUS* sp. *Celastraceæ.*

No. 1039.

58530. *HORDEUM VULGARE COELESTE* L. *Poaceæ. Naked barley.*

The Tibetan barley is very hardy and is usually grown at an altitude of more than 10,000 feet, where other cereal crops do not thrive. It is sown in early April and harvested at the end of September, and is the staple cereal crop of the inhabitants of the Kansu-Tibet border. (*Ching.*)

58531. *IRIS* sp. *Iridaceæ. Iris.*

No. 993.

58532. *JUNIFERUS* sp. *Pinaceæ. Juniper.*

No. 993.

58533. *LONICERA* sp. *Caprifoliaceæ. Honeysuckle.*

No. 996.

58534 to 58536. *MALUS* spp. *Malaceæ. Apple.*

58534. *MALUS* sp.

No. 997.

58535. *MALUS* sp.

No. 1007.

58536. *MALUS* sp.

No. 1038.

58537. *MECONOPSIS* sp. *Papaveraceæ.*

No. 818.

58538. *PINUS ARMANDI* Franch. *Pinaceæ. Pine.*

No. 1039.

For previous introduction, see S. P. I. No. 58367.

58539. *PRINSEPIA* sp. *Amygdalaceæ.*

No. 1033.

58540. *PRUNUS* sp. *Amygdalaceæ. Plum.*

No. 832.

58541. *PRUNUS* sp. *Amygdalaceæ. Cherry.*

No. 1002.

58542. *PYRUS* sp. *Malaceæ. Pear.*

No. 966.

58543. *ROSA* sp. *Rosaceæ. Rose.*

No. 1018.

58544. *SAMBUCUS* sp. *Caprifoliaceæ. Elder.*

No. 967.

58545. *SORBARIA* sp. *Rosaceæ.*

No. 504.

58546. *SORBUS* sp. *Malaceæ.*

No. 751.

58547. *SORBUS* sp. *Malaceæ.*

No. 920.

58548. *TRITICUM TURGIDUM* L. *Poaceæ. Poulard wheat.*

The Sinkiang wheat has just been introduced into western Kansu, and its yield has been much greater, I was told, than the native varieties. The head is somewhat triangular, being broad at the base. This variety is now growing in a very limited area at an altitude of about 7,000 feet and is sown either in the spring or fall. (*Ching.*)

58549 to 58551. ORNITHOGALUM spp.
Liliaceæ.

From Chilterns, Wynberg, Union of South Africa. Bulbs presented by J. B. Taylor. Received March 1, 1924. Notes by Mr. Taylor.

These bulbs, found in Caledon District, Cape Province, bear very beautiful flowers which keep fresh a long time. They do best in sandy soil.

58549. ORNITHOGALUM sp.

Bright-yellow flowers.

58550. ORNITHOGALUM sp.

A rare variety with deep-orange flowers.

58551. ORNITHOGALUM sp.

A very rare variety with pale-yellow flowers.

58552. EREMOCITRUS GLAUCA (Lindl.) Swingle. (Atalantia glauca Benth.).
Rutaceæ.**Australian desert kumquat.**

From Dundas, New South Wales. Seeds presented by Herbert J. Rumsey. Received February 29, 1924.

"This is one of the most interesting of all citrus fruits and one which, curiously enough, has never yet received adequate attention from botanists or horticulturists. It was first mentioned by Leichhardt, the German explorer, to whom we owe much of our knowledge concerning the interior of the deserts of northeastern Australia. It is a shrub or small tree from 12 to 15 feet high, with a trunk 2 to 6 inches in diameter. It has small but thick, leathery leaves of gray-green color, and one is struck by the scantiness of the foliage. The flowers are small and the fruits about half an inch in diameter. An agreeable beverage is made from the acid juice, and a fair preserve may be made out of the fruit. The peel has the sweetish flavor of the kumquat. It is known in Australia as the native lemon. The plant was described botanically in a footnote to Thomas Livingston Mitchell's 'Journal of an Expedition into the Interior of Tropical Australia in Search of a Route from Sydney to the Gulf of Carpentaria.' This plant was discovered on October 17, 1846, not far from Lieutenant Colonel Mitchell's camp, near the juncture of the Maranoa and Merivale Rivers, in the southern limit of Queensland, latitude 26° S. Decidedly cold weather was encountered near this point, in some cases the ice being so thick that it had to be broken in the morning before the horses could drink. It seems probable from this that the plant grows in a region where the temperature occasionally falls to 10° F. and in rare cases nearly to zero. It is the hardest of all evergreen citrus fruits and is very promising for use in breeding new and hardy types." (W. T. Swingle.)

For previous introduction, see S. P. I. No. 56700.

58553. LILIUM DAURICUM Ker. Lilia-
ceæ. Lily.

From Harbin, Manchuria. Seeds presented by B. W. Skvortzow. Received March 12, 1924.

Collected in Mavershan District, Kirin, Manchuria, in 1923. (Skvortzow.)

A plant about 3 feet in height, with a smooth or slightly furrowed stem which is green or tinged with brown or purple. The 20 to 50 horizontal leaves are 3 to 5 inches long, and the flowers, one to five in a cluster and 3 to 5 inches across, are orange-red, slightly spotted with purplish black, and tinged with yellow in the center; the anthers are red.

58554. MOMORICA COCHINCHINENSIS (Lour.) Spreng. Cucurbitaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received January 13, 1924.

This is a very vigorous native Philippine vine with large, round, handsome, greenish yellow fruits which should make it popular as an ornamental vine in southern Florida, Porto Rico, and Panama. The immature fruits are boiled and eaten with meat by the natives, and the tender leaves also are boiled and eaten. The large seeds appear to be very rich in oil which, so far as I know, has never been investigated. (Wester.)

For previous introduction, see S. P. I. No. 52497.

58555 to 58558. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceæ.**Common wheat.**

From Paris, France. Seeds sent by A. Meunissier, Vilmorin-Andrieux & Co., Paris, at the request of E. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of European wheats introduced for cerealists engaged in the study of stem rusts.

58555. (C. I. No. 7326.) Carlotta Strampelli.**58556. (C. I. No. 7327.) Chiddam Blanc de Mars.**

58557. ("C. I. No. 7328.) Hybride de la Pair is one of the introductions of Vilmorin-Andrieux & Co. It is a winter wheat which tests near Paris have shown to be of good yield." (C. E. Leighty, Bureau of Plant Industry.)

58558. (C. I. No. 7329.)

Hybride hâfif inversable was obtained in 1898 at Verrieres by Vilmorin-Andrieux & Co. by crossing Gros bleu and Chiddam d'automne à épi blanc. It can be seeded in the fall and in February and is resistant to cold and to rust. It is widely grown in France and to some extent in England and other countries. It is also known as Dreadnought, Steadfast, Monoplan, and Admiral Beatty. (Jacques de Vilmorin, Quelques blés d'automne, Journal d'Agriculture Pratique, August 28, 1919.)

58559 to 58563. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceæ.**Common wheat.**

From Aberystwyth, Wales. Seeds sent by R. G. Stapledon, department of plant breeding, University College of Wales, at the request of E. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of locally developed European wheat varieties secured for testing by cereal breeders.

58559. (C. I. No. 7334.) Burgoyne Fife.**58560. (C. I. No. 7335.) Svalof.****58561. (C. I. No. 7336.) Cooks Wonder.****58562. (C. I. No. 7337.) April Bearded.****58563. (C. I. No. 7338.) Red Marvel.****58564 to 58567. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceæ.****Common wheat.**

From Svalof, Sweden. Seeds sent by Dr. Akerman, Svalof, at the request of E. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of locally developed Swedish wheat varieties secured for cereal breeders.

58564. (C. I. No. 7330.) Pansar II**58565. (C. I. No. 7331.) Riddar.****58566. (C. I. No. 7332.) Host 0806.****58567. (C. I. No. 7333.) Thule II.**

58568. *Musa* sp. Musaceæ.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received November 22, 1923. Numbered January, 1924.

Introduced in response to a request for edible bananas producing viable seeds.

58569. *TETRASTIGMA* HARMANDI Planch. Vitaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received January 21, 1924.

Ayó. An attractive, perennial evergreen vine of vigorous growth, with palmately 5-foliate, shining dark-green leaves. The fruits are produced in small bunches like grapes and are of about the same size as a small Concord grape and of a dull-brown color. The flesh is semitranslucent, subacid, juicy, and of fair flavor. It is eaten by the Filipinos and could doubtless be used for making jelly and preserves. The plant makes a splendid climbing ornamental and is commonly so used in Manila. (See Plate XXIX, Philippine Agricultural Review, vol. XIV, No. 3, 1921.) (Wester.)

58570. *HIBISCUS SABDARIFFA* L. Malvaceæ. Roselle.

From Kingston, Jamaica. Seeds presented by W. S. Goodman, acting superintendent, Hope Gardens. Received March 20, 1924.

The roselle or, as it is sometimes called, Jamaica sorrel is widely cultivated in the Tropics of both hemispheres for the sake of the fleshy red calyces, which, when cooked, make an excellent jelly or sauce with a flavor resembling that of the cranberry. The juice pressed from the calyces makes a pleasant acid beverage. The plant is a vigorous annual 5 to 7 feet high and grows best in hot, dry climates.

For previous introduction, see S. P. I. No. 51268.

58571. *PHLEUM PRATENSE* L. Poaceæ. Timothy.

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received March 20, 1924.

Locally grown seeds introduced for timothy-breeding tests.

58572. *EHRHARTA ERECTA* Lam. (*E. panicea* Smith.). Poaceæ.

From South Yarra, Victoria. Seeds presented by William Laidlaw, government botanist, National Herbarium of Victoria. Received January 5, 1924.

Panic Veldt grass. This was first introduced into Victoria in 1910 from South Africa, where it is native. It is a biennial or short-lived perennial and appears to be naturally adapted to regions having mild winters, where it springs up after the autumn rains and grows through the winter, maturing in early summer. It is not particular as to soil and seems to do best in partial shade, growing in places too dark for most grasses. It produces an abundance of foliage. (Laidlaw.)

58573. *TIGRIDIA PAVONIA* (L. f.) Ker. Iridaceæ.

From Casa Alvarado, Coyoacan, Mexico. Seeds presented by Mrs. Zelia Nuttall. Received January 5, 1924.

Although this species, like the dahlia, is looked upon as a food plant in some quarters, it will in all probability be more often employed as an ornamental in the United States. Its beautiful, delicate flowers with their unique and peculiar markings, make it an object of great interest in the garden, especially since it is so seldom seen in this country. Although the flowers last but a short while, there

is a succession in a mass planting of them which prolongs the display of yellow, orange, scarlet, and various combinations of reds as satisfactorily as many more durable species.

The tiger flower is adapted to the same situation in the garden as the gladiolus, is similarly handled, and is as easily grown. The species deserves much more extensive culture than it is receiving. It can be treated like the gladiolus in cold climates, but it thrives best when planting or transplanting of the stocks takes place in the fall; in other words, where there is no danger of the corms being injured by low winter temperatures. (David Griffiths, Bureau of Plant Industry.)

58574. *KOKIA DRYNARIOIDES* (Seem.) Lewton. Malvaceæ.

From Honolulu, Hawaii. Fruits presented by C. S. Judd, superintendent of forestry. Received January 4, 1924.

So far as I know, there is now only one tree of this species in existence. It is growing at Kauluawai and was raised from seeds obtained from the last wild tree at Mahana, now dead, discovered and described by J. F. Rock. (Judd.)

An ornamental tree with long-stemmed, heart-shaped leaves and red, silky flowers, native to the Hawaiian Islands, but now become practically extinct because of the ravages of cattle, sheep, and goats, which eat the leaves and bark. (Adapted from Rock, *Indigenous Trees of the Hawaiian Islands*, p. 307.)

For previous introduction, see S. P. I. No. 50924.

58575 to 58581. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ. Common wheat.

From Bologna, Italy. Seeds sent by Dr. Pellegrini, University of Bologna, at the request of E. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of Italian wheat strains which are said to be resistant to all rusts in Italy, according to C. E. Leighty, of the Bureau of Plant Industry. These have been obtained for the use of cereal breeders.

58575. (C. I. No. 7339.) Beardless, red, smooth.

58576. (C. I. No. 7340.) Beardless, red, rough.

58577. (C. I. No. 7341.) Beardless, white, smooth.

58578. (C. I. No. 7342.) Beardless, white, rough.

58579. (C. I. No. 7343.) Bearded, red, rough.

58580. (C. I. No. 7344.) Bearded, white, smooth.

58581. (C. I. No. 7345.) Bearded, red, smooth.

58582. *PACHIRA INSIGNIS* (Swartz) Sav. Bombacaceæ.

From Kingston, Jamaica. Seeds presented by W. S. Goodman, acting superintendent, Hope Gardens. Received January 11, 1924.

A beautiful tropical tree, native to the West Indies and northern South America, which becomes about 30 feet tall, with a trunk up to a foot in diameter. The flowers, about a foot wide, are of extraordinary beauty with their crimson petals and white stamens, and a delightful perfume is given off by them. The fruit is a very large woody capsule which contains numerous edible seeds; these are of the size, appearance, and taste of chestnuts.

58583. *MOMORDICA COCHINCHINENSIS* (Lour.) Spreng. Cucurbitaceæ.

From Santiago de las Vegas, Cuba. Seeds collected at the agricultural experiment station, Santiago de las Vegas, and presented by C. V. Piper, Bureau of Plant Industry. Received January 11, 1924.

A tall climber with ovoid, orange fruits, about 6 inches long. The numerous round, flat seeds are said to be rich in oil. (*Piper*.)

For previous introduction, see S. P. I. No. 58554.

58584. MUSA sp. Musaceæ.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received January 11, 1924.

A large number of the Musas are handsome ornamentals and are extensively cultivated in the warmer parts of the world for their gorgeous tropical effect. This unidentified species will be given a trial in the southernmost part of Florida.

58585 and 58586.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received January 12, 1924.

58585. ACACIA JONESTII Muell. and Maiden. Mimosaçæ.

A very handsome little shrub, native only to a small district of New South Wales, where it reaches a height of 2 to 3 feet, with a stem about three-fourths of an inch in diameter. The fine-cut foliage is a deep green, and the flower headlets are in simple racemes. (Adapted from *Proceedings of the Linnean Society of New South Wales*, vol. 8, ser. 2, p. 13.)

58586. INDIGOFERA AUSTRALIS Willd. Fabaceæ.

An erect branching shrub 2 to 4 feet high, with very attractive compound leaves and dense or loose clusters of showy red flowers. It is very variable in regard to habit and foliage, and in its various forms is found almost throughout Australia, except in the Northern Territory. (Adapted from *Bentham, Flora Australiensis*, vol. 2, p. 199.)

For previous introduction, see S. P. I. No. 56575.

58587. FICUS MYSORENSIS Heyne. Moraceæ.

From Lal Bagh, Bangalore, India. Seeds presented by G. H. Krumbiegel, superintendent, Government Botanic Gardens. Received January 15, 1924.

A large, broadly spreading tree, native to the forests of the subtropical Himalayas from Sikkim eastward. The aerial roots are few, embracing the trunk, and the ovate, leathery leaves, which are prominently veined, are up to 8 inches in length. (Adapted from *Hooker, Flora of British India*, vol. 5, p. 500.)

58588. TITHONIA DIVERSIFOLIA (Hemsl.) A. Gray. Asteraceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received January 15, 1924.

I have just seen this perennial composite at its best, and it far surpasses my expectations as an ornamental. Clumps of it are a blazing mass of yellow, and the flowers often reach a width of 4 inches. These are produced in great abundance during the autumn and early winter months, and the plant therefore might be a good ornamental for Florida during the early winter season. (*Wester*.)

For previous introduction, see S. P. I. No. 57093.

58589. GARCINIA MORELLA (Gaertn.) Desr. Clusiaceæ.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, botanic gardens. Received January 17, 1924.

In connection with the department's effort to establish mangosteen culture in the tropical American dependencies of the United States, several species of *Garcinia* have been tested as stock plants. The mangosteen, when grown on its own roots, is a delicate subject indeed, and it has been thought

grafting on more vigorous species might solve one of the difficulties in the way of its culture. *Garcinia morella* has shown promise as a stock plant, and the seeds under this number will be used to produce plants for further experimentation.

58590. FUNTUMIA ELASTICA (Preuss) Stapf. Apocynaceæ.

Lagos rubber tree.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received January 17, 1924.

The Lagos rubber tree is the most important source of rubber native to West Africa and is distributed throughout western tropical Africa from Sierra Leone to Cameroon, and also in British East Africa.

Introduced for rubber specialists.

58591. LANDOLPHIA DROOGMANSIANA Wildem. Apocynaceæ.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received January 18, 1924.

A giant creeper from the Belgian Congo which becomes over 300 feet in length, with a stem about 8 inches in diameter. The leathery, oblong-rounded leaves are about 5 inches long. This species yields an excellent rubber-producing latex. (Adapted from *Wildeman and Gentil, Lianes Caoutchoutifères du Congo*, p. 59.)

Introduced for testing by rubber specialists.

58592. HYDNOCARPUS ANTHELMINTHICA Pierre. Flacourtiaceæ.

From Bangkok, Siam. Seeds presented by Dr. A. F. G. Kerr, director, botanical section, Ministry of Commerce. Received January 18, 1924.

The *maikrabao*, as this species is called in Siam, where it is native, is a vigorous, graceful tree 30 to 60 feet in height, with large leathery leaves up to a foot in length, pale yellowish above and shining green below. The rose-colored or purplish flowers are in few-flowered racemes, and the large, round fruits, about 3 inches in diameter, contain each about 80 oval seeds from which a fatty oil is expressed. In its physical characteristics and chemical composition this oil closely resembles chaulmoogra oil, which is used with great success in the treatment of leprosy. Like the true chaulmoogra oil (obtained from *Taraktogenos kurzii* King) this consists to a large extent of the glyceryl esters of chaulmoogric and hydnocarpic acids, and it may therefore be inferred that it possesses similar medicinal value.

Young trees of this species are doing well in Hawaii. The plant is likely to prove of value in that region as well as in tropical America.

58593. MARKHAMIA sp. Bignoniaceæ.

From Umтали, Rhodesia, South Africa. Seeds presented by Rev. E. H. Greely. Received January 23, 1924.

A native Rhodesian tree with yellow flowers 2 inches across. It resembles the central African species of *Spathodea*. (*Greely*.)

This is a genus of handsome tropical evergreen trees or shrubs, with large panicles of flowers which are usually yellow.

58594. VALLARIS HEYNEI Spreng. Apocynaceæ.

From Allahabad, India. Seeds presented by W. B. Hayes, horticulturist, Allahabad Agricultural Institute. Received January 22, 1924.

A climbing shrub with fragrant, white flowers three-fourths of an inch wide, often cultivated as an ornamental in India, where it is native. It has milky juice which is used medicinally in its native country. The plant is introduced for the use of specialists engaged in rubber investigations.

For previous introduction, see S. P. I. No. 53592.

58595 and 58596.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received January 23, 1924. Notes by Mr. Rock.

58595. *LILIUM* sp. Liliaceæ. Lily.

(October, 1923.) A small lily 10 to 12 inches high, which grows on the alpine meadows of the Sila Pass, Mekong-Salwin Divide, at an altitude of about 12,000 feet. It is well worthy of cultivation on account of its drooping, rich purplish black, bell-shaped flowers, tinged with carmine, which are 1 or 2 inches long and broad.

58596. *MECONOPSIS* sp. Papaveraceæ.

(November 1, 1923.) An herbaceous plant 3 to 4 feet high, found on Francis Garnier Peak at an altitude of 14,500 feet, en route from the Salwin River to the Mekong River, via the Shondsungla-Tibet border. The flowers are probably yellow.

58597 to 58600.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received January 24, 1924. Notes by Mr. Rock.

58597. *JUGLANS REGIA* L. Juglandaceæ.

(October 25, 1923.) A tall, straight tree which forms dense forests below Shondsungla in the valley of the Dayonlumba, a tributary of the Salwin, on the Tibetan border, at an altitude of 9,500 feet. It is often associated with maples and rhododendrons. The fruits are usually oblong, rarely globose.

58598. *RHODODENDRON ARALIAEFORME* Balf. f. and Forrest. Ericaceæ.

(No. 10832. November, 1923.) A shrub 5 to 8 feet high which grows on the mountain slopes west of Atuntze at an altitude of about 12,000 feet. The rich, golden yellow flowers are in large terminal corymbs.

58599. *RHODODENDRON ARALIAEFORME* Balf. f. and Forrest. Ericaceæ.

(No. 10883. November 11, 1923.) A much-branched small tree 10 to 12 feet in height, which grows at an altitude of 13,500 feet on Mount Drungu, Tibetan border, overlooking the Mekong River. The leathery, dark-green, oblong leaves are brownish yellow beneath, and the flowers are deep red.

58600. *TUMION FARGESII* (Franch.) Skeels. (*Toreya fargesii* Franch.). Taxaceæ.

(October, 1923.) A tree 100 to 150 feet tall, with a trunk $4\frac{1}{2}$ feet in diameter and huge descending branches, which grows rarely in the deciduous and semideciduous forests of the Mekong-Yangtze Divide and also more commonly on the Mekong-Salwin Divide at an altitude of 10,000 feet. The fruits are the size of small walnuts. The tree prefers rich black soil and considerable rainfall.

58601. *HYOSCYAMUS MUTICUS* L. Solanaceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received January 24, 1924.

Like the henbane (*Hyoscyamus niger*) this plant, which is native to Egypt and western Asia, is a source of hyoscyamin, an alkaloid used in the treatment of various nervous disorders. It is a thick-stemmed perennial with fleshy, ovate leaves about 4 inches long and violet-spotted, whitish flowers nearly an inch in length.

For previous introduction, see S. P. I. No. 53543.

58602. *CASTANEA MOLLISSIMA* Blume. Fagaceæ. Chestnut.

From Nanking, China. Seeds purchased from Prof. J. H. Reiser, College of Agriculture and Forestry, University of Nanking. Received January 26, 1924.

In the endeavor to relieve the situation caused by the rapid disappearance of our native chestnut due to the ravages of the chestnut-blight fungus, the Chinese hairy chestnut is being introduced into this country in considerable quantity. The size and quality of the nuts compare rather favorably with those of our native chestnut, although neither the size of the tree nor the tannin content measures up to those of our native species.

58603 to 58623.

From Elstree, Herts, England. Seeds presented by Vicary Gibbs, Aldenham House Gardens. Received January 25, 1924.

58603. *ACANTHOPANAX SESSILIFLORUM* (Rupr. and Maxim.) Seem. Araliaceæ.

A vigorous, deciduous shrub which forms a large spreading bush 10 feet high, with 3 or 5 lobed, irregularly toothed leaves. The flowers, brownish purple with yellow protruding stamens, are packed closely in a spherical, almost stalkless cluster about an inch in diameter and appear in July. The inky black berries are in round clusters about an inch thick. This is one of the hardest shrubs introduced from northern China, where it is native.

58604. *BERBERIS VEITCHII* C. Schneid. Berberidaceæ. Barberry.

A shrub with gracefully arching branches, leathery, pale-green leaves, and bronze-yellow flowers with reddish outer surfaces. The berries are black and broadly elliptic. Native to western Hupeh, China. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 438.)

For previous introduction, see S. P. I. No. 53646.

58605. *CHAENOMELES LAGENARIA WILSONII* Rehd. Malaceæ.

A bush 4 to 6 meters (approximately 13 to 20 feet) tall, found at an altitude of 1,800 meters (approximately 5,900 feet), in western Szechwan. The flowers vary in color from white to red, and the fruits are golden and red. This variety differs from the typical form in the dense yellowish wool which covers the lower surfaces of the leaves. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 2, p. 298.)

For previous introduction, see S. P. I. No. 49664.

58606. *CLEMATIS TANGUTICA OBTUSUSCULA* Rehd. and Wils. Ranunculaceæ.

A handsome climbing shrub, native to Central Asia, with sharply cut compound leaves and very large, solitary, nodding flowers which are borne on erect stems 6 inches long and arched at the tip. The golden-yellow sepals are about 2 inches long, with recurved tips. (Adapted from *Curtis's Botanical Magazine*, pl. 7710.)

For previous introduction, see S. P. I. No. 52337.

58607. *COROKIA VIRGATA* Turrill. Cornaceæ.

A slender-branched shrub, 6 to 12 feet high, native to the most northern part of New Zealand, where mild weather prevails throughout the year. The shining-green, oblong-spatulate leaves are downy white beneath, and the yellow flowers, about half an inch across, are in 3-flowered clusters. (Adapted from *Curtis's Botanical Magazine*, pl. 8466.)

58603 to 58623—Continued.

58608 to 58611. COTONEASTER spp. Malacæ.

58608. COTONEASTER BULLATA Bois.

An ornamental hardy shrub, about 10 feet high, native to western China. The leaves are dark green and the flowers rosy white, but the greatest attraction of this shrub is the abundant crop of brilliant red fruits which are borne on the upper sides of the long arching branches toward the end of August. Some of the fruiting clusters are 2 inches across.

For previous introduction, see S. P. I. No. 53672.

58609. COTONEASTER FRIGIDA Wall.

Var. *vicari*. This is an improved form with deep-green leaves, grayish beneath, and large clusters of rich-red berries which are larger and brighter than those of the typical species. (Adapted from *Gardening Illustrated*, vol. 42, p. 721.)

For previous introduction, see S. P. I. No. 56450.

58610. COTONEASTER SALICIFOLIA RUGOSA (E. Pritz.) Rehd. and Wils.

A very handsome Chinese shrub with long pendulous branches and wrinkled, narrow leaves with the lower surfaces covered with down. The small, scarlet berries contrast very effectively with the autumnal tints of the foliage. (Adapted from *Journal of the Royal Horticultural Society*, vol. 38, p. cclii.)

For previous introduction, see S. P. I. No. 55083.

58611. COTONEASTER sp.

According to Mr. Gibbs this is closely related to *Cotoneaster francheti*, which is an evergreen shrub from western China, with lustrous green leaves, rosy white flowers, and oblong, orange-scarlet fruits.

58612. KALOPANAX DIVARICATUM (Sieb. and Zucc.) Miquel. Araliacæ.

A deciduous shrub of vigorous habit, forming a large, spreading bush 5 to 10 feet or more in height. It is native to the mountains of Kiushiu, Japan, and is closely related to *Acanthopanax sessiliflorum*, cultivated in European gardens for its handsome, dark-green leaves and spherical heads of inky black fruits. Unlike the latter, this species has downy young shoots, and the lower surfaces of the leaves are also quite downy. It should probably prove hardy in all but the coldest parts of the United States.

58613. LIGUSTRUM DELAVAYANUM Hariot. Oleaceæ. Privet.

An evergreen shrub about 6 feet high with long graceful branches and dark, shining-green, oval leaves. The white flowers, borne in downy panicles, and the black fruits make the shrub very ornamental. It is native to the mountainous regions of Yunnan, China, and is probably suited for growing only in the southern United States.

For previous introduction, see S. P. I. No. 55089.

58614. LONICERA TRICHOPODA Franch. Caprifoliacæ. Honeysuckle.

A slender-branched shrubby honeysuckle from Yunnan, China, with narrowly oblong leaves which are covered with fine hairs. The yellowish white flowers are marked with red and are followed by bright-red berries.

58603 to 58623—Continued.

58615. LONICERA sp. Caprifoliacæ. Honeysuckle.

An undetermined species which, according to Gibbs, is related to *Lonicera henryi*, which is an evergreen climber native to western China, with dark-green leaves, purplish red flowers, and blackish purple fruits.

58616 to 58618. ROSA spp. Rosacæ. Rose.

58616. ROSA BRUNONII Lindl.

The Himalayan Musk rose is a tall shrub with arching branches short, stout, hooked prickles, and fragrant, single, white flowers about 2 inches across, borne in large many-flowered clusters. It is a native of the Himalayas and also of western China.

58617. ROSA DAVIDI Crepin.

A pink-flowered, orange-fruited rose 3 to 18 feet high, native to western Szechwan, China, at altitudes of 4,000 to 9,000 feet. It is the nearest Chinese relative of *Rosa macrophylla* of the western Himalayas. (Adapted from *Sargent, Plantæ Wilsonianæ*, vol. 2, p. 322.)

For previous introduction, see S. P. I. No. 53732.

58618. ROSA PRATTHI Hemsl.

A slender-branched, shrubby rose which becomes about 8 feet in height, with numerous bristles and slender prickles. The pink flowers, about three-fourths of an inch across, occur singly or in few-flowered clusters, and the scarlet fruits are about one-third of an inch long. This hardy species is a native of western China.

For previous introduction, see S. P. I. No. 43907.

58619. SCHIZANDRA RUBRIFLORA (Franch.) Rehd. and Wils. Magnoliacæ.

A climbing shrub, often 20 feet in height, which grows at high altitudes in the mountains of western China. The oblong or obovate, sharp-pointed leaves are dark green above and paler below, and the solitary dark-red flowers are about an inch across. (Adapted from *Sargent, Plantæ Wilsonianæ*, vol. 1, p. 412.)

58620. STRANVAESIA DAVIDIANA Decaisne. Malacæ.

This yellow-fruited form was raised from the same batch of seeds as S. P. I. No. 56695, but the fruits were found to have a distinct orange-yellow color. Seedlings may revert to the original type. (Edwin Beckett, superintendent, Aldenham House Gardens.)

For previous introduction, see S. P. I. No. 56696.

58621. STRANVAESIA DAVIDIANA UNDULATA (Decaisne) Rehd. and Wils. Malacæ.

A low, spreading, evergreen shrub, or occasionally a small tree, which is native to western China. The leathery, narrowly oval leaves are glossy green and 1 to 3 inches long, and the white flowers, about half an inch across, appear in terminal clusters. Its greatest charm as an ornamental is the abundant crop of bright-red fruits.

For previous introduction, see S. P. I. No. 40196.

58603 to 58623—Continued.

58622. *VIBURNUM DASYANTHUM* Rehder. Caprifoliaceae.

A hardy ornamental shrub about 7 feet high from the mountains of western Hupeh, China, where it grows at altitudes of 4,000 to 9,000 feet. The narrow, toothed leaves are dark metallic green above, paler beneath, and prominently veined. The flowers are in lax panicles, and the small red berries make the shrub a striking object of beauty in the fruiting season.

58623. *VIBURNUM PHLEBOTRICHUM* Sieb. and Zucc. Caprifoliaceae.

A deciduous shrub, native to Japan, which is very similar to *Viburnum wrightii*, from the same country. It becomes 6 to 10 feet in height, with rather small, narrowly oval, bright-green leaves, white flowers produced in cymes 2 to 4 inches across, and roundish red berries which give the shrub a very attractive appearance.

For previous introduction, see S. P. I. No. 40200.

58624. *BAUHINIA HETEROPHYLLA* Kunth. Caesalpiniaceae.

From Santiago de las Vegas, Cuba. Seeds presented by Dr. Mario Calvino, director, Estación Experimental Agronómica. Received January 28, 1924.

This is called "bejuco tortuga (turtle vine)," because of the characteristic turtle-shaped swellings in the older parts of the vine. It grows in low, sandy places, chiefly on the edges of lagoons and marshes in western Cuba, where it climbs over trees and shrubs. The clusters of yellowish white flowers appear in December. The young vine is used by the natives for making rough baskets and rope. (Calvino.)

58625 and 58626. *DIOSCOREA* spp. Dioscoreaceae.

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, horticulturist, Porto Rico Agricultural Experiment Station. Received January 31, 1924. Notes by R. A. Young, unless otherwise stated.

58625. *DIOSCOREA CAYENENSIS* Lam. Yellow Guinea yam.

Congo. In Mayaguez this is called Congo amarillo, but in the San Juan market, where it is found in greater abundance than other kinds, it is known as Yellow Guinea. It thrives much better in sandy soil than most yams. The large roots attain a length of a foot, are rather cylindrical, and average a weight of 4 or 5 pounds in favorable seasons. The interior of the starchy root is a rich light yellow and turns dark brown when exposed to the air. It is smoother and more even grained than the water yams and not less so than the roots of the White Guinea or the Potato yams. It is rich yellow and of good texture when cooked. The flavor is pleasant and compares favorably in richness with the best yams. The vines of this variety are not angled; they are small and very strong, and make a moderately vigorous growth. (Adapted from C. F. Kinman in Bulletin 27, Porto Rico Agricultural Experiment Station, pp. 20 and 21.)

In addition to the data on quality given by Kinman, it may be noted that this yam has a slightly bitter taste; on this account special methods of cooking may sometimes be required. It is said that the bitterness is more noticeable in immature tubers than in fully mature ones.

For previous introduction, see S. P. I. No. 54901.

58626. *DIOSCOREA ROTUNDATA* Poir. White Guinea yam.

Guinea yam. A white-fleshed yam of excellent quality and one of the most popular varieties grown in Porto Rico. The tubers are usually cylindrical and commonly weigh from 3 to 6 pounds each at maturity.

For previous introduction, see S. P. I. No. 53006.

58627. *CARICA CANDICANS* A. Gray. Papayaceae.

From Peru. Seeds presented by B. E. Dahlgren, Field Museum of Natural History, Chicago, Ill. Received January 31, 1924.

Collected by J. F. Macbride, in Peru. (Dahlgren.)

A wild relative of the papaya (*Carica papaya*), which is native to the mountainous region of Peru between Lima and Obrajillo, at an altitude of about 7,000 feet. It is a small tree, 6 to 10 feet high, with a few stout branches and a fruit said to be shaped like a cacao pod. It may be of use to horticulturists in southern Florida who are carrying on breeding experiments with the papaya.

58628. *EUCALYPTUS DELEGATENSIS* R. T. Baker. Myrtaceae.

From Tasmania. Seeds presented by Dr. J. G. Lipman, director, agricultural experiment station, New Brunswick, N. J. Received February 1, 1924.

This seems to be a valuable timber tree in Tasmania, where it is native. (Lipman.)

"The gum-topped stringybark is an erect tree, often assuming the largest dimensions. The branches are usually short and ascending, and the bark is thin and fibrous." (L. Rodway, *Tasmanian Eucalypts*, p. 15.)

For previous introduction, see S. P. I. No. 58127.

58629 and 58630. *JUGLANS REGIA* L. Juglandaceae.

From Srinagar, Kashmir, India. Seeds presented by R. K. Koul, Koul's Gardens. Received February 2, 1924.

Walnuts have been cultivated since remote times in the hilly portions of India, and in Kashmir especially the industry has been highly developed. These seeds are from superior varieties which are grown at an altitude of about 5,500 feet, in a region where mild winters and warm, but not hot, summers prevail.

58629. *Kaghzi*.

58630. A small variety.

58631 and 58632. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Valence, Rhone, France. Seeds purchased from Tézard Frères. Received March 12, 1924.

Locally grown strains introduced for clover specialists.

58631. Harvested in the southern Alps.

58632. Harvested in Drome, near Valence.

58633 and 58634. *RHODODENDRON* spp. Ericaceae.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received January 31, 1924. Notes by Mr. Rock.

58633. *RHODODENDRON* sp.

(No. 10884. Tsarong, Tibet. November 23, 1923.) A shrub or small tree, 10 to 15 feet high, collected on the banks of the Drossutong, at an altitude of 12,000 feet. All parts of the plant are extremely aromatic, with a peppermint-turpentine fragrance. The elliptical, thin, dark glossy green leaves are greenish brown beneath, densely dotted, and have red petioles. The flowers may be pink.

58634. *RHODODENDRON* sp.

(No. 10885. November, 1923.) A tree or shrub 15 to 25 feet in height, sometimes with a trunk 10 inches in diameter, found on the slopes of the sacred mountain Dokerla, Tibetan border, at an altitude of 11,000 feet, in a mossy forest along the banks of a stream. The lanceolate glabrous leaves are dull green, paler beneath, and the red flowers are in terminal umbels.

58635. CROTALARIA sp. Fabaceæ.

From Angola, Africa. Seeds presented by Merlin W. Ennis. Received February 2, 1924.

In our experiments with various plants introduced for cover crops we did not discover anything satisfactory, so we turned to the plants growing wild in this region. Among these was the "Elende clover," of which we are sending you seeds. This is a rather inconspicuous plant which grows in all sorts of places. I tried it first as a cover crop in the orange grove, in the hope that it might restrain the Bermuda grass. It not only smothered the Bermuda grass, but as it appears now in its second year it has made a very heavy stand. As the plant is well supplied with root nodules I believe that it will prove valuable as fertilizer. (Ennis.)

58636 to 58640.

From India. Seeds collected by Ralph R. Stewart. Received February 2, 1924. Field notes by Mr. Stewart.

58636 to 58639. RIBES spp. Grossulariaceæ.**58638. RIBES ALPESTRE Decaisne.**

(No. 7376½. Sonamarg. August 22, 1922.) Collected at an altitude of about 8,600 feet. This is the only prickly *Ribes* in Kashmir, and it has very large fruits.

58637. RIBES GLACIALE Wall.

(No. 6743. Sonamarg. August 22, 1922.) A very hardy species, collected at an altitude of 10,000 feet. The fruit is not used.

A shrub, 10 to 15 feet high, with reddish young shoots, rounded leaves, and small flowers which are maroon or purplish on the inside. The small, scarlet, currantlike fruits mature in July in the higher altitudes of the Himalayas, where the species is native. (Adapted from Janczewski, *Monographie des Groseilliers*, p. 467.)

58638 and 58639. RIBES ORIENTALE Desf.

Unarmed, deciduous shrubs about 6 feet high distributed from eastern Europe to the Himalayas. The leaves are shining green and bristly below, the flowers are greenish red, and the small red fruits are covered with viscid hairs.

58638. (No. 7309. Sonamarg. July and August, 1922.) A hardy species, usually on dry, open banks, at an altitude of 7,000 to 9,000 feet.

58639. (No. 7385½. Matayan Dras, Ladak. August 29, 1922.) From an altitude of 10,000 feet.

58640. RUBUS SAXATILIS L. Rosaceæ.

(No. 7467. Baltal. September 3, 1922.)

According to Sir Joseph Hooker (Flora of British India), *Rubus saxatilis* is distributed throughout the Himalayan region, commonly at altitudes of 10,000 to 11,000 feet. The stems are short, erect, annual from a stout woody rhizome. The leaves are composed of three ovate, somewhat lobed, acutely double-toothed leaflets, each 2 to 3 inches long. The white flowers, half an inch in diameter, are followed by fruits composed of a few large scarlet drupelets. Judging by its distribution in Asia, this species should prove sufficiently hardy for cultivation in many parts of the United States. It is of interest mainly to plant breeders who are working with this genus.

58641. ABIES FORRESTII Craib. Pinaceæ. Fir.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 5, 1924.

For previous introduction and descriptive note, see S. P. I. No. 58468.

58642. ABIES sp. Pinaceæ. Fir.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 9, 1924.

For previous introduction and descriptive note, see S. P. I. No. 58469.

58643. FICUS CARICA L. Moraceæ. Fig.

From Saonara, Padova, Italy. Plants purchased from Fratelli Sgaravati. Received February 9, 1924.

Dotato. Dr. Gustavus Eisen, long with this department and instrumental in bringing about the introduction of many fig varieties into the United States, describes *Dotato* as the best-known fig of Tuscany. A large proportion of the figs exported from Italy are of this variety. The trees are said to love rich, moist soils and is not suitable for dry lands. Under proper environmental conditions, it is a strong grower and heavy bearer of medium-sized fruits, oval-pyriform in shape, smooth, and yellowish green in color.

This well-known Italian variety is introduced for cultural and comparison tests by horticulturist engaged in fig-breeding experiments.

For previous introduction, see S. P. I. No. 56631.

58644. PASPALUM NOTATUM Fluegge. Poaceæ.

From San Jose, Costa Rica. Seeds purchased from J. Alfredo Quiros. Received January 30, 1924.

Bahia grass is a perennial grass forming a dense sward of leaves and with flowering culms about 1 foot high, two-branched at the top. It is native from Cuba and Mexico southward to Argentina. It is generally recognized as a very valuable pasture grass. The rootstocks are very stout, so that even on very sandy soil the grass makes a firm sod. At the Florida experiment station, Bahia grass is spreading year by year even into land already occupied by other grasses. In Florida the best germination has been obtained by sowing the seed the latter part of May and in June. A firm seed bed seems desirable.

Bahia grass has proved hardy throughout Florida and as far north as McNeill, Miss. It succeeds on nearly all types of soil, even on the sand hills, but best in fairly firm soils.

The ergot which attacks Dallis grass and many other species of Paspalum also affects Bahia grass. Indeed, in parts of Argentina where the pastures are largely of this grass the ergot causes a disease of cattle apparently the same as that caused by the same ergot on Dallis grass in Mississippi. It is not likely, however, that this ergot will ever be serious except perhaps in limited areas where Bahia grass or Dallis grass makes up the whole pasture. (C. V. Piper, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 51121.

58645. CLITANDRA ARNOLDIANA Wildem. Apocynaceæ.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received February 5, 1924.

One of the commonest rubber-producing plants of the Belgian Congo, being found throughout the entire territory. It is a vine which becomes a foot in diameter and 250 feet in length, with leathery, narrowly oblong leaves. The rubber obtained from the latex of this species is black and of first quality. (Adapted from Wildeman and Gentil, *Lianes Caoutchoutifères du Congo*, p. 80.)

Introduced for rubber specialists.

58646. X POPULUS GENEROSA A. Henry. Salicaceæ. Poplar.

From Dublin, Ireland. Cuttings presented by Dr. Augustine Henry, College of Science for Ireland. Received March 22, 1924.

This hybrid poplar is, according to its originator, Augustine Henry, intermediate in characters between its parents (*Populus angulata* and *P. trichocarpa*). The leaves are coarsely serrate and pale gray beneath. The tree is a rapid grower and unusually vigorous.

58647 to 58658.

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co. Received February 20, 1924.

58647. AMPELOPSIS MEGALOPHYLLA Diels and Gilg. (*Vitis megalophylla* Veitch.). Vitaceæ.

A vigorous, hardy, very interesting vine, becoming 20 to 30 feet in length, with long-stemmed, deeply lobed leaves often more than 3 feet in diameter. The bluish black fruits are in loose cymes. This species is native to western Hupeh, China, where it grows at an altitude of about 4,000 feet.

For previous introduction, see S. P. I. No. 39569.

58648. CHEIRANTHUS MUTABILIS L'Her. Brassicaceæ.

A half-woody ornamental from Madeira, about 3 feet high, with very narrow, pointed leaves. The flowers are white, cream colored, or yellowish, becoming darker and striped.

58649. EOMECON CHIONANTHA Hance. Papavereæ.

A hardy, herbaceous perennial, native to eastern China. The pearly white flowers, 2 inches across, are borne in a many-flowered cluster on a reddish scape a foot or more high. The contrast of the white flowers with the pale-green leaves is very striking. The root stalks run freely underground and increase rapidly.

58650. LAVATERA OLbia L. Malvaceæ.

A shrubby perennial, native to southern Europe, about 6 feet in height. The 3-lobed or 5-lobed oblong leaves are softly hairy, and the solitary, reddish purple flowers are sometimes over 2 inches across.

58651. RUBUS FLAGELLIFLORUS Focke. Rosaceæ.

A climbing, evergreen, shrubby *Rubus* from central and western China, where it is found at an altitude of about 6,000 feet. The slender, graceful stems become 5 or 6 feet long in one season; when young they are covered with a whitish felt through which are scattered small recurved prickles. The broadly oval, long-pointed leaves are sometimes 7 inches long, with the lower surfaces covered with thick, yellowish felt. The shining black fruits, half an inch thick, are edible.

58652. RUBUS TRIFIDUS Thunb. Rosaceæ.

An erect, woody, Japanese species, 7 to 10 feet high, with large, palmately ribbed, serrate leaves, and medium-sized, scarlet, edible berries. Because of its bright autumn foliage this is sometimes called the "fire raspberry."

58653. SALVIA DICHROA Hook. f. Menthaceæ.

This perennial is considered by some authorities as one of the most beautiful of the more hardy sages. It comes from the Atlas Mountains in Morocco. The plant grows about 3 feet high, and the deeply cut leaves are 6 to 8 inches long. The flowers are very striking, with the upper lip bright blue, the lateral lobes light blue, and the pendulous midlobe white. The many-flowered racemes are a foot or more in length.

58647 to 58658—Continued.

58654. SISYRINCHIUM STRIATUM J. E. Smith. Iridaceæ.

A hardy, herbaceous perennial, 1 to 3 feet high, which is native to Chile and Argentina. It has sword-shaped leaves and lemon-yellow flowers in sessile clusters on long spikes. Each tuft develops 20 to 30 flower spikes, and throughout July this makes a very striking garden ornamental.

For previous introduction, see S. P. I. No. 33818.

58655. SPHAERALCEA MUNROANA (Dougl.) Spach. Malvaceæ.

A very attractive herbaceous perennial, 1 or 2 feet in height, found on dry plains in British Columbia and southward. The leaves are faintly 3-lobed, sometimes incised, and the scarlet or rose-colored flowers, an inch across, are in many-flowered terminal or axillary panicles.

58656. THLADIANTHA OLIVERI Cogn. Cucurbitaceæ.

A vigorous herbaceous vine, with annual, softly hairy stems sometimes 30 feet long and large, heart-shaped leaves about 8 inches long. Clusters of yellow, bell-shaped flowers an inch across appear in the leaf axils from July to September, making the vine very attractive. The native home of this species is central China.

58657. VACCINIUM URCEOLATUM Hemsl. Vacciniaceæ.

A handsome bush, 2 to 6 feet in height, common on red sandstone rocks in western Szechwan, China. It has leathery, narrowly oval leaves 2 to 4 inches long, small pink flowers in racemes, and small, black, urn-shaped berries.

58658. VERBASCUM WEIDEMANNIANUM Fisch. and Mey. Scrophulariaceæ.

A hardy herbaceous biennial, 1 to 3 feet high, covered with cobwebby, woolly hairs. The radical leaves are oblong and about 4 inches long; the stem leaves are sessile and very small. The purplish lilac flowers over an inch wide are either solitary or in a simple raceme or slightly branched panicle. This species is native to the Caucasus.

58659. CASTANEA MOLLISSIMA Blume. Fagaceæ.

From Yih sien, Shantung, China. Seeds presented by K. M. Gordon, South Shantung Industrial School of the American Presbyterian Mission (North). Received March 29, 1924.

These nuts, unusually sweet in flavor, came from the village of Yangchialou, about 3 miles north of Yih sien. (Gordon.)

The Chinese hairy chestnut has been introduced into this country several times and has been quite generally distributed. It is a promising immigrant, as the nut more closely resembles our American sweet chestnut than any other foreign species. Our own chestnut is rapidly disappearing, because of the chestnut blight which was introduced from the Orient about 20 years ago. *Castanea mollissima* is resistant to blight and has other characters that would seem to make it worthy of cultivation and study.

58660. CARICA sp. Papayaceæ.

From Lima, Peru. Seeds presented by Ing. Miguel U. Reátegui, Lima, through Dr. Mario Calvino, San Manuel, Oriente, Cuba. Received March 19, 1924.

Papaya aromática. An unidentified species from the highlands of Peru, which will be used in papaya-breeding experiments in southern Florida.

58661. OLEA EUROPAEA L. Oleaceae. Olive.

From Ariana, near Tunis, Tunisia, Africa. Cuttings presented by F. Boeuf, chief, botanical service. Received March 28, 1924.

Barouni. "This variety is described in a paper entitled 'L'Olivier en Tunisie,' by N. Minangoin, published by the Department of Agriculture and Commerce of Tunis in 1901. The leaves, fruits, and seeds are illustrated in Plate I, figure 1, of this publication. I translate what Minangoin says concerning it:

"This variety is found almost exclusively in the olive orchards of the Sahel (eastern coast of Tunis) and in particular at Kalaa Srira (11 km. from the town of Sousse).

"Foliage sparse, leaves 7 to 8 cm. long, narrow, light green on the upper surface, whitish on the lower surface. Fruits single, very large, shaped like a pear upside down, wine red when mature, ripening very early. Peduncle long and strong, flesh thick and white, seed one-sided, long and thick, ending in a point. Flowers at the end of February."

"Mr. Minangoin told me himself in 1904 that the variety is extremely rare and that he knew of only three trees, which were on the estate of M. Robert at Kalaa Srira. The word Barouni means foreign, and the variety is supposed to have been introduced by one of the Beys of Tunis from Greece or Turkey. He said that the trees in question were old and do not bear well. He stated that the fruits sometimes weighed as much as 20 grams.

"I met M. Robert, who was at that time vice president of the Municipality of Sousse, and he also stated that the Barouni variety is found only at Kalaa Srira. He said that it was not commonly grown, as it requires a good deal of water and must be irrigated.

"There are two varieties of olive in Tunis to which the name Barouni is applied. The large pickling olive is Barouni de Kalaa Srira, while the other variety is known as Barouni de Soliman and has a small fruit used for making oil." (T. H. Kearney, Bureau of Plant Industry; letter of February 7, 1924.)

58662. DIOSCOREA sp. Dioscoreaceae. Yampi.

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, horticulturist, agricultural experiment station. Received March 26, 1924.

Mapuey morado. The yampi is usually of even form and somewhat club-shaped, and the tubers are commonly 4 to 10 ounces in weight; the inner skin is pink. The flesh is white, but often becomes slightly grayish when cooked. The flavor is much like that of the potato, but the yampi has in addition an agreeable sweetness. (R. A. Young, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 56660.

58663 to 58668. FICUS CARICA L. Moraceae. Fig.

From Malaga, Spain. Cuttings presented by Luis Liró Ortiz, director, Estación de Agricultura General de Torrox, through D. D. Shepard, American consul. Received March 4, 1924. Notes by Señor Ortiz.

58663. *Blanquilla*. A tree of medium size which does not produce early fruits (brevas), but bears only a large crop of small, very sweet, late fruits (higos).

58664. *Negra* or *Goen*. A large tree which bears both early and late fruits; these are sweet and of medium size.

58663 to 58668—Continued.

58665. *Pacueca*. A tree of medium size, bearing regular crops of early and late fruits, which are large and black.

58666. *Pardilla*. A tree which never becomes very tall, because of its spreading habit. When young it bears both early and late crops, but after several years it bears only the late fruits. These are large, brown, and very sweet. This is the best variety grown in the vicinity of Malaga; it yields well and the fruits are the best for drying.

58667. *Valenciana*. A large tree which produces only a late crop, which is regular and heavy. The fruits are large, white, and sweet.

58668. *Verdeja* or *Ojo de Perdiz*. A large tree which produces a late crop; the fruits are not so numerous as those of the *Blanquilla* [S. P. I. No. 58663], nor are they so sweet. The name "Ojo de Perdiz" is derived from the red eye of the fruit.

58669. JUGLANS REGIA L. Juglandaceae. Walnut.

From Simla, Punjab, India. Plant presented by Howard Spence, The Red House, Ainsdale, England. Received March 7, 1924.

In 1916 I received from Simla, India, a few walnuts of a variety superior in quality to any I have ever tasted, with a delicate coconut flavor. The long, narrow nut was particularly well filled with closely packed convolutions resembling those of a pecan more than of an ordinary walnut. The shell is rather thick, and the average length of the nut is a little less than 2 inches. The original tree is said to be in Bhujji (between Bilaspur and Rampur), 23 miles from Simla, in a hot, inclosed valley through which runs the Sutlej River. There may be a chance that the seeds will transmit the quality of the parent. (Spence.)

58670 to 58672.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received February 28, 1924. Notes by Mr. Wester.

58670. *AMPELOCISSUS MARTINI* Planch. Vitaceae.

Bika. A very attractive vine, with leaves dark green above and russet beneath. The vine dies to the ground when the fruits are ripe. The fruits are about the size of Delaware grapes, dark maroon to almost black, in bunches sometimes containing over 200. The flesh is juicy and acid, with a rather biting aftertaste. Although inedible raw, the Americans in Cebu and Iloilo say that an excellent jelly is made from them.

58671. *CARICA PAPAYA* L. Papayaceae. Papaya.

This is one of the most remarkable papayas I have ever seen. The fruit is oblong, obviously a hermaphrodite type, medium in size, with thick flesh, a small cavity, and few seeds. The flesh is very firm, pale-flesh color except for a distinct greenish yellow "rind" about an eighth of an inch thick, and of good quality. It will probably ship better than the average soft papaya.

58672. *CITRUS NOBILIS DELICIOSA* (Ten.) Swingle. Rutaceae. Mandarin orange.

This mandarin, imported from China, is the best flavored citrus fruit I ever have eaten.

58673 and 58674.

From Perth, Western Australia. Seeds presented by S. L. Kessell, conservator of forests. Received March 1, 1924.

58673. *BORONIA MEGASTIGMA* Nees. Rutaceæ.

A very slender bushy shrub about 2 feet high, from the swampy regions of Western Australia. The rather scanty foliage consists of small compound leaves having very narrow leaflets; the numerous axillary flowers are very fragrant, maroon-purple on the outside and greenish yellow within. (Adapted from *Curtis's Botanical Magazine*, pl. 6046.)

58674. *LESCHENAUTIA BILOBA* Lindl. Goodeniaceæ.

A low shrub, 2 to 3 feet high, with slender, scattered leaves half an inch in length. The flowers are either in small clusters in the upper axils or else borne in a large, leafy, terminal cluster. The corolla, about an inch long, has spreading, dark-blue wings marked with parallel, transverse veins, and the sepals are narrow like the leaves. This species is native to Western Australia. (Adapted from *Bentham, Flora Australiensis*, vol. 4, p. 42.)

58675 to 58691. *ALLIUM* spp. Liliaceæ.

From Nancy, France. Seeds presented by Prof. Edmond Gain, director, botanic garden. Received February 28, 1924.

Introduced for horticulturists studying the food possibilities of the genus.

58675. *ALLIUM ANGULOSUM* L.

A rather variable species, distributed from eastern Europe through Siberia in dry rocky places. It is usually a low plant, with narrow leaves and a hemispherical head of lilac-purple flowers.

58676. *ALLIUM CARINATUM* L.

The leaves of this European species are narrowly linear, and the lilac-purple flowers are produced in a comparatively large head. It is found throughout southern Europe, especially in the Alps.

58677 and 58678. *ALLIUM CEPA* L. Onion.

58677. Common onion.

58678. Var. *bulbellifera*. A form which has bulbels in the place of flowers.

58679. *ALLIUM FISTULOSUM* L. Welsh onion.

A Siberian species which differs from the common onion in having no distinct bulb, but only an enlarged base or crown; the leaves are usually more clustered.

58680. *ALLIUM GLOBOSUM* Bieb.

The bulbs of this species are almost cylindrical, with an oblique base, and the very narrow, almost filiform leaves are shorter than the scape, which is 8 to 12 inches high. The petals are pink or white marked with a red middle stripe. Native to southeastern Europe.

58681. *ALLIUM MOLY* L.

A bulbous species with broad, glaucous leaves and scapes 10 to 15 inches high. The bright-yellow flowers are in compact heads. Native to southern Europe.

58682. *ALLIUM NARCISSIFLORUM* Vill.

An elegant Italian species about 9 inches high, with nodding heads of beautiful rose-colored flowers.

58683. *ALLIUM NUTANS* L.

A Siberian species with narrow leaves, all radical, and two nodding flower heads.

58675 to 58691—Continued.

58684. *ALLIUM OBLIQUUM* L.

A species cultivated in Siberia as a substitute for garlic.

58685. *ALLIUM PORRUM* L. Leek.

58686. *ALLIUM SATIVUM* L. Garlic.

58687. *ALLIUM SCHOENOPRASUM* L. Chives.

A European species with numerous, slender, awl-shaped leaves and a globular head of light-purple flowers.

58688. *ALLIUM SCORODOPRASUM* L.

Rocambold. This species grows wild in Greece and was formerly cultivated in England for the same purposes as garlic. Its bulbs are smaller than those of garlic, milder in taste, and are produced at the tip of the stem as well as at the base.

58689. *ALLIUM SPURIUM* Don.

A rather variable species, distributed from eastern Europe through Siberia in dry rocky places. It is usually a low plant, with narrow leaves and a hemispherical head of lilac-purple flowers.

58690. *ALLIUM URSINUM* L.

A wild European onion which grows in large masses in the open woods. When in flower it is very effective, clothing the ground with its broad green leaves, above which the numerous umbels of white flowers are borne on scapes a foot high.

58691. *ALLIUM VICTORIALIS* L.

One of the most distinct species of European *Alliums*, with stems about a foot and a half high and leaves resembling those of the lily-of-the-valley. The white or greenish white flowers are produced in May.

58692 to 58718.

From Paris, France. Seeds presented by Prof. D. Bois, Museum of Natural History. Received February 29, 1924.

A collection of leguminous plants and grasses obtained for forage-crop specialists.

58692 to 58694. *ASTRAGALUS* spp. Fabaceæ.

58692. *ASTRAGALUS ALOPECUROIDES* L.

An erect, pubescent, Siberian species 2 to 5 feet in height, with narrowly oval leaves and yellow flowers produced in thick, oblong spikes.

58693. *ASTRAGALUS BOETICUS* L.

An upright, often stout annual, with compound leaves usually composed of 9 to 15 pairs of very narrow leaflets, and 6 to 15 pale-yellow flowers in a crowded raceme. Native to the Mediterranean countries.

58694. *ASTRAGALUS PONTICUS* Pall.

A hairy stemmed species with dense, axillary flower heads. Native to southern Russia.

58695. *BRACHYPODIUM DISTACHYUM* (L.) Beauv. Poaceæ. Grass.

A low, tufted annual grass, native to the Mediterranean countries, which deserves trial in the Pacific Coast States.

58696. *CAMPYLOTROPIS MACROCARPA* (Bunge) Rehd. (*Lespedeza macrocarpa* Bunge). Fabaceæ.

A Chinese shrub closely allied to the *Lespedeza*, which becomes 6 feet in height, with long-stalked leaves, oval leaflets, and many-flowered racemes of purple flowers.

For previous introduction, see S. P. I. No. 43679.

58692 to 58718—Continued.

58697. *CORONILLA EMERUS* L. Fabaceæ.
Scorpion-senna.

A dense, half-hardy, symmetrical shrub, native to southern Europe, 3 to 5 feet high, with deep glossy-green compound leaves and large, showy flowers which are yellow, tipped with red. In warm regions this species is evergreen.

58698. *CORONILLA MONTANA* Scop. Fabaceæ.

An erect, smooth yellow-flowered perennial species, with the flowering stems twice as long as the leaves, found in the mountainous regions of the Caucasus.

58699. *DINEBRA ARABICA* Jacq. Poaceæ. Grass.

A laxly caespitose, somewhat rigid annual, branched from the base, with the culms sometimes prostrate, sometimes ascending or obliquely erect, 1 to 18 inches long. Native to tropical Africa and the East Indies.

For previous introduction, see S. P. I. No. 49517.

58700. *FESTUCA AMETHYSTINA* L. Poaceæ.
Grass.

A densely caespitose perennial grass with fibrous roots, stout culms, and very narrow leaves. Native to central and southeastern Europe.

58701. *HIPOCREPIS CILIATA* Willd. Fabaceæ.

A low annual, with very narrow leaflets and small, pealike, yellow flowers. Native to the Mediterranean countries.

58702 to 58704. *LOTUS* spp. Fabaceæ.

58702. *LOTUS EDULIS* L.

A more or less hairy annual with ascending or erect branched stems 4 to 16 inches long, short-stemmed grayish green leaflets, and large, yellow flowers in few-flowered heads. It grows only in sandy areas in the Mediterranean region.

For previous introduction, see S. P. I. No. 56668.

58703. *LOTUS ORNITHOPODIODES* L.

A hairy annual with branched ascending or decumbent stems, mostly 4 to 12 inches long, native to grassy places in the Mediterranean region. The yellow flowers are in clusters of two to five.

For previous introduction, see S. P. I. No. 51866.

58704. *LOTUS SILIQUOSUS* L.

A perennial, herbaceous, hairy plant, with a compact base and slender runners. The stems, branched at the base, are mostly about a foot long and either decumbent or ascending. The solitary flowers are bright yellow. Native to northern and eastern Europe.

58705. *MEDICAGO TORNATA* Mill. Fabaceæ.

An annual species, native to Italy, with several slender branching stems a foot and a half long, and small, solitary, yellow flowers. The broad, flat, lunate pods are filled with kidney-shaped seeds.

58706. *MELICA ALTISSIMA* L. Poaceæ. Grass.

A climbing perennial grass with stout culms narrow long-pointed leaves, and racemelike, elongate panicles. Native to southeastern Europe and west-central Asia.

58707. *PISUM ELATIUS* Bieb. Fabaceæ.

A hardy annual, about 5 feet high, with leaves composed of one to three pairs of narrow leaflets, and purple flowers. Native to woods and thickets in the alpine regions of Europe.

58692 to 58718—Continued.

58708. *POA CAESIA* J. E. Smith. Poaceæ. Grass.

A densely caespitose perennial grass, native to Europe, with flowering stems 1 or 2 feet high and leaves resembling those of Kentucky bluegrass (*Poa pratensis*). It grows very freely, seeding itself.

For previous introduction, see S. P. I. No. 53156.

58709. *SCLEROPOA RIGIDA* (L.) Griseb. (*Festuca rigida* Kunth). Poaceæ. Grass.

An annual tufted grass, up to a foot in height, with linear, sharp-pointed leaves and rigid panicles. Native to Asia Minor.

58710. *SCORPIURUS SUBVILLOSA* L. Fabaceæ.

A decumbent or ascending annual with one to three stems up to 20 inches in length, long-stemmed, simple, grass-green narrow leaves, and small, yellow flowers. Native to the Mediterranean countries.

58711. *SCORPIURUS SULCATA* L. Fabaceæ.

A species very similar to the preceding (*S. subvillosa*, S. P. I. No. 58710), differing chiefly in having mostly a 3-flowered umbel and in the sepals being shorter than the calyx tube. Native to the Mediterranean countries.

58712. *TRIFOLIUM BADIUM* Schreb. Fabaceæ.
Clover.

An herbaceous perennial clover with flower-bearing stems and also leaf rosettes which do not bear flowers. The stems are mostly 4 to 8 inches long, upright, or ascending. The bright-yellow flowers become brown when dried. Native to rocky places in alpine regions of Europe.

58713. *TRIFOLIUM SQUARROSUM* L. Fabaceæ.
Clover.

An upright or ascending robust annual, with branches up to 30 inches in length, native to the Mediterranean countries. The pink or white flower heads are oval when young, becoming more elongated later.

For previous introduction, see S. P. I. No. 56272.

58714 to 58717. *TRIGONELLA* spp. Fabaceæ.

58714. *TRIGONELLA CORNICULATA* L.

An annual fodder plant, distributed from southern Europe to Africa and India. It is upright in habit, 4 to 20 inches high, with spreading branches. The elongate or obovate leaflets are greenish white beneath, and the yellow flowers are in racemes.

58715. *TRIGONELLA CRETICA* (L.) Boiss.

A yellow-flowered annual species with ascending stems, obovate leaves, and very short pods. Native to Asia Minor.

58716. *TRIGONELLA MONSPELIACA* L.

A rather low annual species, usually 2 to 8 inches high, with soft pubescence and with a pronounced coumarin odor. The leaflets are gray-green, and the sessile, yellow flowers are very small. Native to the Mediterranean countries.

58717. *TRIGONELLA POLYCEPATA* L.

A prostrate or ascending annual, usually 1 or 2 feet high, with obovate leaflets and yellow flowers in small umbellike clusters. Native to southern Europe and northern Africa.

58718. *VICIA DASYCARPA* Ten. Fabaceæ. Vetch.

An annual species which is closely related to the hairy vetch (*V. villosa*); some varieties of it, however, have an earlier season than hairy vetch and are of special value for the Southern States.

For previous introduction, see S. P. I. No. 50318.

58719 to 58724. CASTANEA MOLLISSIMA
Blume. Fagaceæ.

From Nanking, China. Seeds presented by Prof. J. H. Reisner, College of Agriculture and Forestry, University of Nanking. Received March 11, 1924. Notes by Professor Reisner.

Introduced in connection with experiments to obtain a blight-resistant strain of chestnut.

58719 and 58720. Secured by Rev. S. Emmet Stephens, Tsingtao, Shantung.

58719. *Tsili*. From Taianhsien Kinkou, Shantung.

58720. From Chuchenghsien, Shantung.

58721 to 58723. Secured by Rev. H. G. Romig, Tanghsien, Shantung.

58721. From Tanghsien, Shantung.

58722. From Yencheng, Shantung.

58723. From Peihhsien, Shantung.

58724. Secured by Rev. J. E. Shoemaker, Kuyao, Chekiang, from Shanyu, Chekiang.

58725 to 58730.

From Addis Ababa, Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received February 26 and March 14, 1924. Field notes by Doctor Harlan.

Collected in Modjo, Abyssinia.

58725. ANDROPOGON CERESIAEFORMIS Nees. Poaceæ. Grass.

(No. 298. November 11, 1923.) Used for thatching.

A tufted perennial, erect or ascending grass with very slender stems 1 to 4 feet long. Native to South Africa.

58726. ANDROPOGON sp. Poaceæ. Grass.

(No. 305. November, 1923.) Seeds of a wild roadside grass.

58727. AVENA ABYSSINICA Hochst. Poaceæ. Oats.

(No. 292. November 11, 1923.) Selected in a field of mixed oats and barley; said to be seeded with the barley.

58728. AVENA STRIGOSA Schreb. Poaceæ. Oats.

(No. 304. November, 1923.) Panicles from a field of barley.

58729. BRASSICA sp. Brassicaceæ.

(No. 317. November, 1923.)

58730. CAPSICUM ANNUM L. Solanaceæ.

(No. 318. November, 1923.) Red pepper.

58731. CHLORIS sp. Poaceæ. Grass.

From Paris, France. Seeds presented by Prof. D. Bois, Museum of Natural History. Received February 29, 1924.

Introduced for forage-crop specialists.

58732 to 58802.

From Addis Ababa, Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received February 26 and March 14, 1924. Notes by Doctor Harlan.

58732 and 58733. CICER ARIETINUM L. Fabaceæ. Chickpea.

58732. (No. 312. Modjo, Abyssinia. November, 1923.)

58732 to 58802—Continued.

58733. (No. 352. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58734. CORIANDRUM SATIVUM L. Apiaceæ. Coriander.

(No. 316. Modjo, Abyssinia. November, 1923.) A plant esteemed because of its fragrant capsules.

58735. CUCURBITA MAXIMA Duchesne. Cucurbitaceæ. Squash.

(No. 323. Modjo, Abyssinia. November, 1923.)

58736. ERAGROSTIS ABYSSINICA (Jacq.) Schrad. Poaceæ. Teff.

(No. 375. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58737. ERAGROSTIS ABYSSINICA (Jacq.) Schrad. Poaceæ. Teff.

(No. 296. Modjo, Abyssinia. November 11, 1923.) Grown as a cereal crop; preferred to all others for bread making.

58738. GOSSYPIUM sp. Malvaceæ. Cotton.

(No. 289. Lake Zwai, Abyssinia. November 5, 1923.) From Hans Jammash's ostrich farm.

58739. GOSSYPIUM sp. Malvaceæ. Cotton.

(No. 290. Lake Zwai, Abyssinia. November 5, 1923.) From Hans Jammash's ostrich farm.

58740 and 58741. GUIZOTIA ABYSSINICA (L. f.) Cass. Asteraceæ.

An annual plant, 6 to 8 feet high, with showy yellow flower heads. The black, shining seeds furnish the Niger oil of commerce.

58740. (No. 314. Modjo, Abyssinia. November, 1923.)

58741. (No. 344. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58742 to 58746. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.) Poaceæ. Sorghum.

58742. (No. 291. Modjo, Abyssinia. November 11, 1923.) A wild sorghum, 3 or 4 feet high, found growing in fields and grasslands.

58743. (No. 306. Modjo, Abyssinia. November, 1923.) A loose-panicled sorghum grown here for the seeds.

58744. (No. 338. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58745. (No. 353. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58746. (No. 394. Molu. November 19, 1923.) From the banks of the Muger River.

58747 to 58755. HORDEUM spp. Poaceæ.

58747 and 58748. HORDEUM DEFICIENS Steud. Deficient barley.

58747. (No. 293. Modjo, Abyssinia. November 11, 1923.)

58748. (No. 339. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58749 to 58754. (Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58749. HORDEUM VULGARE COELESTE L. Six-rowed barley.

(No. 368.)

58732 to 58802—Continued.

- 58750 to 58754. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 58750. (No. 349.) 58753. (No. 372.)
 58751. (No. 351.) 58754. (No. 376.)
 58752. (No. 370.)
58755. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 (No. 392. Molu. November 19, 1923.) On the road to Gojam, 20 miles northwest of Addis Ababa.
58756. *HYPARRHENIA* sp. Poaceæ. Grass.
 (No. 379. Molu. November 19, 1923.) Found at an altitude of 8,000 feet.
58757. *LATHYRUS SATIVUS* L. Fabaceæ. Bitter vetch.
 (No. 309. Modjo, Abyssinia. November, 1923.)
- 58758 to 58760. *LENTILLA LENS* (L.) W. F. Wight. (*Lens esculenta* Moench.). Fabaceæ. Lentil.
 58758. (No. 297. Modjo, Abyssinia. November 11, 1923.)
 58759. (No. 343. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
 58760. (No. 371. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
- 58761 to 58764. *LINUM USITATISSIMUM* L. Linaceæ. Flax.
 58761. (No. 302. Modjo, Abyssinia. November 11, 1923.)
 58762 to 58764. (Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
 58762. (No. 346.) 58764. (No. 374.)
 58763. (No. 373.)
58765. *PENNISETUM* sp. Poaceæ. Grass.
 (No. 380. Molu. November 19, 1923.) Found along the Muger River at an altitude of 7,000 feet.
58766. *PENNISETUM* sp. Poaceæ. Grass.
 (No. 391. Molu. November 19, 1923.) Found at an altitude of 7,500 to 8,000 feet.
- 58767 to 58770. *PHASEOLUS VULGARIS* L. Fabaceæ. Common bean.
 (Modjo, Abyssinia. November, 1923.)
 58767. (No. 328.) Picked in a garden.
 58768. (No. 333.) 58770. (No. 335.)
 58769. (No. 334.)
- 58771 to 58774. *PISUM SATIVUM* L. Fabaceæ. Pea.
 58771. (No. 315. Modjo, Abyssinia. November, 1923.) The seeds are mixed, bright violet and slate gray.
 58772. (No. 325. Modjo, Abyssinia. November, 1923.) Mottled and white.
 58773. (No. 355. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Large, green and white.
 58774. (No. 367. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Large, mixed brown, gray and mottled, the mottled one striking.
- 58775 to 58777. *PISUM SATIVUM* L. Fabaceæ. Pea.
 58775. (No. 295. Modjo, Abyssinia. November 11, 1923.) Common variety grown in pure culture.
 58776. (No. 310. Modjo, Abyssinia. November, 1923.)
 58777. (No. 347. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Color green.

58732 to 58802—Continued.

58778. *SESAMUM ORIENTALE* L. Pedaliaceæ. Sesame.
 (No. 350. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Local name, saleet.
58779. *SPOROBOLUS* sp. Poaceæ. Grass.
 (No. 378. Molu. November 19, 1923.) Collected at an altitude of 8,000 feet. Seeds almost as big as those of tefi.
58780. *TRICHOLAENA* sp. Poaceæ. Grass.
 (No. 390. Molu. November 19, 1923.) Found along the Muger River.
58781. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceæ. Fenugreek.
 (No. 369. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. A small-seeded legume.
- 58782 to 58796. *TRITICUM* spp. Poaceæ.
 58782 to 58787. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Common wheat.
 58782. (No. 299. Modjo, Abyssinia. November 11, 1923.) This type of wheat is ripening now.
 58783. (No. 303. Modjo, Abyssinia. November 12, 1923.) Several types of spikes, two of which had bright-violet kernels.
 58784. (No. 326. Modjo, Abyssinia. November, 1923.)
 58785. (No. 340. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Color purple and white.
 58786. (No. 345. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
 58787. (No. 366. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
- 58788 and 58789. *TRITICUM DICOCCUM* Schrank. Emmer.
 58788. (No. 311. Modjo, Abyssinia. November, 1923.) Mostly white.
 58789. (No. 324. Modjo, Abyssinia. November, 1923.) Black.
- 58790 and 58791. *TRITICUM DURUM* Desf. Durum wheat.
 58790. (No. 313. Modjo, Abyssinia. November, 1923.) Including spikes with violet kernels.
 58791. (No. 348. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
58792. *TRITICUM POLONICUM* L. Polish wheat.
 (No. 320. Modjo, Abyssinia. November, 1923.)
- 58793 to 58796. *TRITICUM DURUM* Desf. Durum wheat.
 (Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
 58793. (No. 337.)
 58794. (No. 341.) White.
 58795. (No. 342.) Purple.
 58796. (No. 354.)
58797. (Undetermined.)
 (No. 377. Molu. November 19, 1923.) A wild leguminous plant collected on the banks of the Muger River at an altitude of about 7,000 feet.

58732 to 58802—Continued.

58798 and 58799. *Vicia faba* L. Fabaceæ.

Broad bean.

58798. (No. 204. Modjo, Abyssinia. November 11, 1923.) Plants found scattered in a maize field.

58799. (No. 321. Modjo, Abyssinia. November, 1923.)

58800. *Vigna cylindrica* (Stickm.) Skeels. Fabaceæ.

Catjang.

(No. 300. Modjo, Abyssinia. November 11, 1923.) An especially heavily seeded bean.

58801 and 58802. *Zea mays* L. Poaceæ. Corn.

58801. (No. 301. Modjo, Abyssinia. November 11, 1923.)

58802. (No. 332. Modjo, Abyssinia. November, 1923.)

58803 to 58808.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, regius keeper, Royal Botanic Garden. Received March 12, 1924.

Introduced for horticulturists experimenting with small fruits.

58803. *Berberis virescens* Hook. f. Berberidaceæ.

Barberry.

The outstanding features of this Himalayan barberry are its elegant habit and the red tinge of its stems in winter. It is a deciduous shrub 6 to 9 feet in height, with smooth, reddish, shining branches, slender spines sometimes three-fourths of an inch in length, bright-green leaves, pale sulphur-yellow flowers, and slender reddish berries.

58804. *Ribes petraeum* Wulf. Grossulariaceæ.

Var. *biebersteini*. This variety of red currant is from the Caucasus, where it forms an upright shrub about 8 feet in height, with 5-lobed, heart-shaped leaves, reddish flowers, and red or dark-purple, acid fruits.

For previous introduction, see S. P. I. No. 52708.

58805. *Ribes warszewiczii* Jancz. Grossulariaceæ.

This Siberian species is closely allied to the northern red currant (*Ribes rubrum*) and bears large, purplish black, very acid fruits. It is an unarmed shrub about 5 feet high, with pinkish flowers in pendent racemes 2 inches in length.

58806. *Rubus idaeus* L. Rosaceæ. Raspberry.

Var. *leesi*. A simple-leaved form of the European red raspberry.

58807. *Viburnum burejaeticum* Regel and Herd. Caprifoliaceæ.

A northern Chinese species allied to the Wayfaring tree (*Viburnum lantana*); the flowers are produced in dense cymes 2 inches across, and the fruits are ovoid and bluish black.

For previous introduction, see S. P. I. No. 57366.

58808. *Viburnum rhytidophyllum* Hemsl. Caprifoliaceæ.

A hardy evergreen shrub about 10 feet in height, which is one of the most striking of all the viburnums because of its bold, wrinkled, shining leaves and red fruits. The leaves are sometimes over 7 inches in length, and the dull-white flowers are in large terminal clusters 4 to 8 inches across. Native to central and western China.

For previous introduction, see S. P. I. No. 53750.

58809. *Prunus armeniaca* L. Amygdalaceæ. Apricot.

From Tripoli, Libia, North Africa. Seeds presented by E. O. Fenzi. Received March 13, 1924.

Ain thor (bull's eye); also bergsam. A very large tree, taller and more vigorous than any other kind; leaves thin, irregularly toothed; fruit globular, with hardly any groove, weight 40 grams, diameter 40 millimeters; skin scarcely tomentose, reddish yellow, adhering closely to the flesh; flesh more juicy than that of any other kind, with flavor more like that of a plum than an apricot, adhering closely to the smooth stone. Not common. (Fenzi.)

58810. *Juglans insularis* Griseb. Juglandaceæ. Cuban walnut.

From Santiago de las Vegas, Cuba. Seeds presented by Prof. Gonzalo M. Fortun, acting director, Estación Experimental Agronómica. Received March 13, 1924.

Nuts collected in our arboretum from trees grown from seeds obtained near Trinidad, San Juan de Letran. (Fortun.)

This interesting Cuban tree is found in the mountainous sections of the island, sometimes at considerable elevations. I have seen it in the mountains near Trinidad, on the south coast, at an elevation of about 2,000 feet, growing among numerous other trees along the banks of a small stream. It seems, however, to be comparatively rare and does not occur in great numbers. It is erect and slender in habit, growing to a height of 40 or more feet, with foliage somewhat finer than *Juglans nigra* of the United States. The nuts resemble those of *J. nigra* in size and appearance, though sometimes smaller. The kernels, however, are removed with difficulty, the septæ being very thick and woody. In its present wild state the Cuban walnut, as it is called, does not seem of great horticultural value, but with a little improvement by selection it might become an excellent nut for tropical regions. It has been suggested that it might serve as a stock for the Persian walnut, making possible the culture of this species in Cuba and other tropical regions where it is not now successfully grown. (Wilson Popenoe, Bureau of Plant Industry.)

For illustrations of the tree and fruit, see the Journal of Heredity, vol. 6, p. 561, December, 1915.

For previous introduction, see S. P. I. No. 43052.

58811 to 58813.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received March 13, 1924.

Introduced for horticulturists engaged in small-fruit breeding.

58811. *Ribes* sp. Grossulariaceæ.

No. 2706. Hers. From China.

58812. *Viburnum buddleifolium* C. H. Wright. Caprifoliaceæ.

A deciduous shrub about 6 feet high, with narrowly oblong, shallow-toothed leaves, downy beneath, 3 to 5 inches long; white, funnel-shaped flowers in cymes about 3 inches wide, and oval, black fruits about one-third of an inch long. Native to central China.

58813. *Viburnum rhytidophyllum* Hemsl. Caprifoliaceæ.

For previous introduction and description, see S. P. I. No. 58808.

58814. *Trifolium pratense* L. Fabaceæ. Red clover.

From Warsaw, Poland. Seeds presented through Leo J. Keena, American consul general. Received March 15, 1924.

Locally grown seeds introduced for clover specialists.

58815. SOLANUM TUBEROSUM L. Solanaceae. Potato.

From Trujillo, Peru. Tubers presented by A. Martin Lynch. Received March 15, 1924.

These are considered the standard variety for northern Peru. They appear to be drought resistant. (Lynch.)

The yellow-fleshed potato is one of the most interesting varieties found in the Andean Region, home of many remarkable potatoes. The tubers are rather small and have deep eyes, so that they are not as easily prepared for the table as some other varieties; but in point of quality they yield to none that I have tasted. The flesh is the color of American butter and has a rich, nutty flavor suggesting that of the chestnut. It seems to me the variety might be improved, so as to do away with the objectionable deep eyes, and it would then be worth extensive cultivation. (Wilson Popenoe, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 56803.

58816. ZEA MAYS L. Poaceae. Corn.

From Addis Ababa, Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received February 26, 1924.

(No. 336. November 17, 1923.) Purchased in the market. (Harlan.)

58817 to 58839.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received March 15, 1924. Notes by Mr. Rock.

58817. ACER SP. Aceraceae. Maple.

(No. 11402. November, 1923.) A tree 60 to 80 feet tall, with a large crown and a trunk about 3 feet in diameter, which grows along watercourses at the foot of the Likiang Snow Range at an altitude of about 9,000 feet.

58818. BENZOIN SP. (Lindera sp.). Lauraceae.

(No. 11384. Champutung, November, 1923.) A tree 25 feet high from the Salwin Valley, Tibetan border, at 8,000 feet altitude. The oval, acute, pubescent leaves are brown beneath, and the red ovoid fruits are fragrant. This is similar to the Tengyueh species (S. P. I. No. 56292).

58819. CASTANOPSIS SP. Fagaceae.

(No. 11491. Lautchunshan. November, 1923.) A tree about 50 feet tall, which grows in forests at 8,000 feet altitude. The leathery, serrate leaves are oblong and acuminate, and the small nuts are in thick spikes.

58820. COTONEASTER SP. Malaceae.

(No. 11360. Karila. December, 1923.) A shrub or small tree, about 20 feet high, growing in a deciduous forest at 12,000 feet altitude. It has small, oval leaves and black fruits.

58821. COTONEASTER SP. Malaceae.

(No. 11431. November, 1923.) A shrub about 5 feet high from the drier slopes of the Likiang Snow Range at an altitude of about 10,000 feet. It has small, oval leaves, pale beneath, and globose, scarlet fruits.

58822. ERIOBOTRYA SP. Malaceae.

(No. 11451. Sungkwe. November, 1923.) An attractive shrub 4 feet high, found in rather dry places at 8,000 feet altitude. It has pale-green, roundish, serrate leaves and corymbs of carmine fruits.

58823. EUONYMUS SP. Celastraceae.

(No. 11394. Ganhaitze. November, 1923.) A tree about 40 feet high, from the eastern slopes of the Likiang Snow Range, where it grows at an altitude of 10,000 feet. The leaves are rich green, and the pink fruits, with dark-red seeds, are in large umbels.

58817 to 58839—Continued.

58824. JUNIPERUS SP. Pinaceae. Juniper.

(No. 11353. November, 1923.) A tree 50 feet tall, with dark-green branches, which covers the eastern slopes of Peimashan at altitudes of 13,000 to 15,000 feet on the Yangtze-Mekong Divide. The glaucous fruits are deep bluish black.

58825. JUNIPERUS SP. Pinaceae. Juniper.

(No. 11475. November, 1923.) A shrub 8 feet high which grows in rocky limestone soil opposite the Likiang Snow Range at an altitude of about 9,000 feet. It has globose, orange-red fruits.

58826. MAGNOLIA SP. Magnoliaceae.

(No. 11215. Mount Kenichunpu. October, 1923.) A tree 30 feet high, from the Salwin-Irrawaddy Divide, where it grows at an altitude of 12,000 feet. It has large white flowers and very large leaves, 1 or 2 feet long and a foot broad, glaucous beneath.

58827. MAGNOLIA SP. Magnoliaceae.

(No. 11232. Mount Kenichunpu. October, 1923.) A very ornamental tree 35 feet high which grows at an altitude of 11,000 feet on the Salwin-Irrawaddy Divide, Tibetan border. It has small, oval, smooth leaves and large white flowers.

58828. MALUS YUNNANENSIS (Franch.) C. Schneid. (Pyrus yunnanensis Franch.). Malaceae.

(No. 11398. Ganhaitze. November, 1923.) A very attractive tree about 25 feet high, which grows in forests at an altitude of 11,000 feet. It has yellowish red fruits the size of cherries and large, crenate, hairy leaves.

58829. NOMOCHARIS PARDANTHINA Franch. Liliaceae.

(No. 10249. Champutung. October, 1923.) A beautiful liliaceous plant about 3 feet high, which grows on grassy slopes on the outskirts of forests in the Salwin Valley, at an altitude of about 9,000 feet. The leaves are ternate and the large flowers, white, pink, purple, or red, with deep irregular purple blotches, have salver-shaped corollas.

58830. OSMANTHUS SP. Oleaceae.

(No. 11444. November, 1923.) An exceedingly handsome shrub about 4 feet in height from an altitude of 10,000 feet on the Likiang Snow Range. It has small, oval, serrate leaves, numerous cream-colored flowers, and ovoid, blue-black fruits.

58831. PHOTINIA SP. Malaceae.

(No. 11479. Saba. November, 1923.) A small tree, 10 feet in height, growing in a forest on the Likiang Snow Range at 11,000 feet altitude. The oblong, glossy leaves have red midribs and petioles. The flowers are white and the rich-crimson fruits are in large corymbs.

58832. PRUNUS SP. Amygdalaceae. Cherry.

(No. 11221. Champutung. October, 1923.) A red-flowered tree 15 feet high, from an altitude of about 13,000 feet in the Salwin Valley. The fruits are ovoid and red.

58833. PRUNUS SP. Amygdalaceae. Cherry.

(No. 11237. Mount Kenichunpu. October, 1923.) A dwarf cherry which grows as a shrub 4 feet high at an altitude of about 13,000 feet on the Salwin-Irrawaddy Divide, Tibetan border. It has oval, serrate leaves, red flowers, and ovoid black fruits.

58834. PYRUS SP. Malaceae. Pear.

(No. 11480. November, 1923.) A tree 20 feet high, found along stream beds at the foot of and on the slopes of the Likiang Snow Range at about 10,000 feet altitude. It is a handsome species, with large crenate leaves white-tomentose beneath, white flowers, and yellowish red fruits the size of a cherry.

58817 to 58839—Continued.

58835. *PYRUS* sp. Malacææ.

Pear.

(No. 11492. Lauchunshan. November, 1923.) A handsome tree about 25 feet high, with leaves white hairy beneath and corymbs of red fruits. It grows at an altitude of about 10,000 feet.

58836. *SLOANEA* sp. (*Echinocarpus* sp.). Elæocarpaceæ.

(No. 11236. Mount Kenichunpu. October, 1923.) A very ornamental tree 30 feet high, which grows on the Salwin-Irrawaddy Divide, at 9,000 feet altitude. The oblong, crenate leaves are hairy beneath, and the fruit capsules are covered with pale, straw-colored bristles.

58837. *SORBUS* sp. Malacææ.

(Karla. December, 1923.) A deciduous tree 20 feet high which grows at an altitude of 13,000 feet. It has white fruits with a pinkish tinge.

58838. *TSUGA YUNNANENSIS* (Franch.) Masters. Pinacææ. Hemlock.

(No. 11493. November, 1923.) A tall tree, 80 feet or more in height, with a straight trunk about 5 feet in diameter and small cones, which grows in mixed forests on the western slopes of the Likang Snow Range at 10,000 feet altitude.

58839. (Undetermined.)

(No. 11359. December, 1923.) A very handsome tree about 50 feet tall, which is common on rocky slopes of the Yangtze River embankments at Gohinda, north of Luku. It has glossy, dark-green, crenate leaves, large terminal corymbs of small white flowers, and very attractive crimson fruits.

58840. *CITRUS GRANDIS* (L.) Osbeck. Rutacææ. Grapefruit.

From Ancon, Canal Zone. Budwood presented by W. T. Robertson, Pedro Miguel, Canal Zone, through James Zetek, Ancon. Received March 21, 1924.

This is a rare and interesting variety of grapefruit, said to produce fruits with juicy flesh of blood-red color. Its origin is uncertain, but it seems probable that it was brought from Asia in the early days of trans-Isthmian travel. Red-fleshed grapefruits or pomelos are common in India, but they usually lack juice and are very different from the grapefruit of Florida in general character. Some of the Indian varieties have been introduced into the United States, where they have failed to become popular. A pink-fleshed grapefruit, which originated in Florida as a bud sport from one of the standard commercial sorts, has met with a more favorable reception, but has not attained commercial importance.

If the variety which Mr. Robertson has sent proves to be of good quality and at the same time has flesh of attractive red color, it should prove a novelty of much interest. In forwarding the budwood his letter states: "In one of the oldest towns of the Republic of Panama, about 8 miles from the canal, I found three trees of the blood-red grapefruit. I was told by one of the oldest inhabitants that these were the original trees, all the others in the vicinity being seedlings from them. These three trees have never been cared for, but were simply planted and allowed to grow up in the jungle, without pruning, spraying, or fertilizing. They appear to be at least 40 years old and are about 50 feet high."

58841. *FRAGARIA* sp. Rosacææ.

Strawberry.

From Woodbridge, England. Plants purchased from R. C. Notcutt. Received March 26, 1924.

"Dreadnought. Plant of close, compact growth; fruit large, of excellent flavor; season medium." (Notcutt, 1923-24 Catalogue, p. 10.)

Introduced for horticulturists engaged in strawberry breeding.

58842 to 58849. *FRAGARIA* spp. Rosacææ. Strawberry.

From Bedford, England. Plants purchased from Laxton Bros. Received March 26, 1924. Quoted notes from the catalog of Laxton Bros., unless otherwise stated.

58842. *FRAGARIA* sp.

"Black Prince. Very early, with small, dark-colored fruits of good flavor; much grown for earliest supplies for preserving."

For previous introduction, see S. P. I. No. 56160.

58843. *FRAGARIA* sp.

"Elton Pine. A very late, hardy variety which bears well. The somewhat acid fruits are useful for preserving."

58844. *FRAGARIA* sp.

"Grove End Scarlet. An old, well-known, midseason variety. The small, round fruits are preserved whole."

58845. *FRAGARIA* sp.

Ruskin. A variety said to be grown for jam making in the Clyde Valley, Scotland.

58846. *FRAGARIA* sp.

"Sir Joseph Paxton. The main-crop variety most widely grown for market. Fruit rich crimson, with firm flesh."

58847. *FRAGARIA* sp.

"The Duke. A very vigorous variety which will grow in almost any soil where strawberries can be cultivated. It is earlier and bears a heavier crop of better flavored fruits than the 'Royal Sovereign.' The fruit is brilliant scarlet, conically oval, and borne on long, erect trusses. The flesh is highly flavored and firm, so that the berries ship well. The variety is excellent for forcing."

58848. *FRAGARIA* sp.

"The Earl. This may be best described as a much-improved Vicomtesse de Thury, larger in size, more vigorous, and free cropping. Season late." (Bunyard's Catalogue of Fruit Trees.)

For previous introduction, see S. P. I. No. 56171.

58849. *FRAGARIA* sp.

"Vicomtesse H. de Thury. An early variety, with small, rich-flavored fruits; much grown for preserving."

58850. *ANNONA DIVERSIFOLIA* Safford. Annonacææ. Ilama.

From El Barranquillo, Guatemala. Seeds purchased from Fernando Carrera, through Philip Holland, American consul, city of Guatemala, Guatemala. Received March 20, 1924.

For several years this office has been engaged in establishing the ilama in southern Florida, where the first fruits were produced by trees at the Miami Plant Introduction Garden in the summer of 1923. Our experience up to the present indicates that this species seems likely to prove much better adapted to the climatic conditions of that region than the cherimoya (*Annona cherimola*).

The ilama may be termed the cherimoya of the lowlands. The cherimoya does not succeed in the Tropics unless grown at altitudes of 4,000 to 6,000 feet, where the climate is cool. The ilama, on the other hand, belongs to the lowlands, but is strikingly similar in character to a good cherimoya. It is a valuable recruit and one which can not be too strongly recommended for cultivation throughout the Tropics. (Wilson Popenoe, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 58030.

58851. CRYPTOSTEGIA GRANDIFLORA R.
Br. Asclepiadaceae. Palay rubber.

Growing at the Chapman Field Plant Introduction Garden, Coconut Grove, Fla., under P. I. G. No. 514. Numbered March, 1924.

Introduced for trial as a source of rubber.

An erect, woody climber of unknown nativity, but now cultivated in many places in the Tropics of both hemispheres as an ornamental, and occasionally growing as an escape from cultivation. The flowers, reddish purple becoming pale pink, are about 2 inches across and are produced in short spreading cymes. In India the plant is called palay and is cultivated for the rubber obtained from the juice.

58852 and 58853.

From Brooklyn, N. Y. Seeds presented by the curator of plants, Brooklyn Botanic Garden. Received March 20, 1924.

58852. LOTUS REQUIENI Mauri. Fabaceae.

A hairy leguminous perennial, of erect or ascending habit, native to Italy, introduced for forage-crop specialists.

58853. PHALARIS ARUNDINACEA L. Poaceae.
Ribbon grass.

Var. *picta*. The typical form of this species has proved a promising forage grass for wet land in the northern Pacific Coast States and also in the western Rocky Mountain region. This variety has been obtained for forage-crop specialists.

58854. TRIFOLIUM FRAGIFERUM L. Fabaceae.

From Sydney, New South Wales. Seeds presented by A. J. Bristol, Takoma Park, D. C., through A. J. Pieters, Bureau of Plant Industry. Received August, 1922. Numbered March, 1924.

Shearman's clover was accidentally discovered at Fullerton Cove near New Castle, New South Wales, by a man named Shearman. The Australian literature gives the information that it is a very rapidly growing plant and does well in moist situations. It appears to be a sport from *Trifolium fragiferum*, at least all its morphological characters point to such a conclusion. The variety is largely sterile, although not wholly so, since some seeds have been found at the Arlington Farm, Va., and in Oregon and Idaho.

The probable use of this plant will be as a leguminous grazing crop in permanent pastures. The lack of an abundant seed supply will prevent its use as a rotation crop. (Pieters.)

For previous introduction, see S. P. I. No. 56551.

58855 to 58858. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Warsaw, Poland. Seeds presented through Leo J. Keena, American consul general. Received March 27, 1924.

Locally grown seeds introduced for clover specialists.

58855. From Pultusk, near Warsaw.

58856. From Nowo Radomskie.

58857. From Bonskie.

58858. From Lomzynskie.

58859 to 58862. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Moravia, Czechoslovakia. Seeds presented by Dr. Rudolf Kuraz, agricultural attaché, Czechoslovak Legation, Washington, D. C. Received March 20, 1924.

Locally grown strains introduced for clover specialists.

58859 to 58862—Continued.

58859. From Hrotovicko.

58860. From Trebic.

58861. From Pribor.

58862. From Mor. Budejovice.

58863 to 58865.

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received March 20, 1924.

Introduced for forage-crop specialists.

58863. ERODIUM TRICHOMANEFOLIUM L'Her. Geraniaceae.

A low herbaceous perennial, 4 to 6 inches high, native to hilly places in Syria. The narrowly oblong leaves are deeply cut, and the flowers are flesh colored, marked with darker veins.

58864. ERODIUM sp. Geraniaceae.

Received as *Erodium willthominianum*, for which a place of publication has not been found.

58865. PIPTANTHUS NEPALENSIS (Hook.) Sweet. Fabaceae.

A fairly hardy evergreen climber, native to southwestern China and northeastern India, which becomes about 10 feet in height, with deep-green trifoliate leaves and handsome yellow flowers an inch or more in length.

For previous introduction, see S. P. I. No. 49645.

58866 to 58898.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received March 20, 1924.

Introduced for agronomists experimenting with crop plants.

58866. AGROPYRON PUNGENS (Pers.) Roem. and Schult. Poaceae. Grass.

A wide-creeping grass, with stout, white runners and stems about a foot high. The leaf blades are compact and often bristly. Native to sandy places along the seacoast of southern Europe.

58867. AGROSTIS sp. Poaceae. Grass.

The genus *Agrostis* contains a number of species important as forage grass. This species was received as *Agrostis canina*, but does not agree with material in the National Herbarium; it will be tested by department agronomists.

58868 to 58896. ALLIUM spp. Liliaceae.

A collection of *Alliums* introduced for department horticulturists studying food possibilities of wild members of the genus.

58868. ALLIUM ALBOPHILOSUM C. H. Wright.

A Transcasian species which has probably the largest flowers of the genus. The bulbs are large, and the strap-shaped leaves, 18 inches in length, have longitudinal lines of white hairs beneath and on the edges. The scape is nearly 2 feet high and bears large heads 9 inches across, each composed of from 60 to 80 deep-lilac flowers.

58869. ALLIUM CANADENSE L.

The well-known wild garlic, native to temperate North America. Because of its great variability and its rare seeding in the United States, seeds have been obtained from a foreign source.

58870. ALLIUM FISTULOSUM L. Welsh onion.

A Siberian species which differs from the common onion in having no distinct bulb, but only an enlarged base or crown; the leaves are usually more clustered.

For previous introduction, see S. P. I. No. 58679.

58866 to 58898—Continued.

58871. *ALLIUM GIGANTEUM* Regel.

One of the tallest members of the genus, becoming 4 feet in height. It is native to the Himalayas. The bulbs are large, and the fleshy leaves are about 18 inches in length. The bright-lilac flowers are in heads 4 inches in diameter.

58872. *ALLIUM GRANDE* Lipsky.

A Caucasian species with a scape 3 feet or more in height, wide-margined leaves 10 to 12 inches long, and many-flowered umbels of pinkish white flowers. (Adapted from *Acta Horti Petropolitani*, vol. 13, p. 343.)

58873. *ALLIUM HELDREICHII* Boiss.

A Grecian species, a foot or less in height, with thin terete leaves shorter than the scape and rosy flowers.

58874. *ALLIUM KARATAVIENSE* Regel.

A herbaceous plant with very broad, oval-oblong, flat leaves, and pink flowers borne in dense, convex umbels. The scapes are about 6 inches high. Native to Turkestan.

58875. *ALLIUM MACRANTHUM* Baker.

A handsome herbaceous perennial from the eastern Himalayas. The flat leaves are over a foot long, and the mauve-purple flowers are produced in clusters of 50 or more on scapes 2 feet high.

58876. *ALLIUM MONTANUM* F. W. Schmidt.

A rather variable species, distributed from eastern Europe through Siberia in dry rocky places. It is usually a low plant, with narrow leaves and a hemispherical head of lilac-purple flowers.

58877. *ALLIUM NEAPOLITANUM* Cirillo.

A southern European species, about a foot and a half high, with flat leaves and very ornamental white flowers.

58878. *ALLIUM NIGRUM* L.

A tall species, about 3 feet in height, native to southern Europe. The dull-violet or whitish flowers are produced in summer.

58879. *ALLIUM ODORUM* L.

This onion, which grows wild in Europe, is cultivated in Japan for its leaves, which are eaten as greens; in the spring the leaves are borne luxuriantly by the old bulbs, becoming about a foot in length.

For previous introduction, see S. P. I. No. 55442.

58880. *ALLIUM OSTROWSKIANUM* Regel.

This species, native to Turkestan, has rose-colored flowers produced freely in many-flowered umbels on scapes 6 inches high.

58881. *ALLIUM ROSEUM* L.

A plant about a foot in height, with strap-shaped leaves rolled inward at the top and pale lilac-rose flowers produced in umbels. Native to southern Europe.

58882. *ALLIUM SCORZONERAEFOLIUM* DC.

A species of unknown origin, cultivated in European gardens. It has very narrow concave leaves and small, yellow flowers in a few-flowered umbel.

58883. *ALLIUM SICULUM* Ucria.

A handsome biennial, native to Sicily, with broad, flat leaves and scapes 3 feet or more in height. The dull, purplish flowers are borne in drooping umbels. The species is characterized by a very strong odor when bruised.

58866 to 58898—Continued.

58884. *ALLIUM SIKKIMENSE* Baker.

A compact, neat little perennial 6 inches high or more, with grasslike leaves and loose umbels of deep-blue flowers. Native to Sikkim, India.

58885. *ALLIUM TUBERGENI* Freyn.

A species from Asia Minor with ovoid bulbs about an inch and a quarter long, oval or oval-lanceolate leaves about 10 inches long, and rosy red flowers produced on a scape nearly 2 feet high. (Adapted from *Mémoires de l'Herbier Bossier*, No. 13, p. 32.)

58886. *ALLIUM* sp.

Received as *Allium huteri*, for which a place of publication has not been found.

58887. *BETA TRIGYNA* Waldst. and Kit. Chenopodiaceæ.

Introduced for plant breeders.

A hardy herbaceous white-flowered perennial, about 3 feet in height, native to Hungary.

58888. *BETA VULGARIS* L. Chenopodiaceæ. Beet.

Seeds of what is said to be the wild form of the cultivated beet, introduced for cultural tests.

58889. *BRACHYPODIUM DISTACHYUM* (L.) Beauv. Poaceæ. Grass.

For previous introduction and description, see S. P. I. No. 58695.

58890. *BRACHYPODIUM PINNATUM* (L.) Beauv. Poaceæ. Grass.

A perennial grass native to Europe, having much the same general habits as timothy. It will probably prove a valuable plant for semiarid places.

58891 to 58893. Introduced for strawberry specialists.

58891. *DUCHESNEA INDICA* (Andrews) Focke (*Fragaria indica* Andrews.). Rosaceæ.

English-grown seed of an Eurasian plant common as a weed in the United States.

58892. *FRAGARIA CALIFORNICA* Cham. and Schlecht. Rosaceæ. Strawberry.

A wild strawberry from the Coast Range of California, with light-green, hairy leaflets, flowers in pairs, and globose white fruits about one-third of an inch in diameter.

58893. *FRAGARIA* sp. Rosaceæ. Strawberry.

Received as *Fragaria chinensis*, for which a place of publication has not been found.

58894. *LATHYRUS NIGER* (L.) Bernh. Fabaceæ.

An erect or ascending, slender, branched species 1 or 2 feet in height, with light-green leaflets and small, blue flowers. It has short rootstocks and succeeds well in partial shade. Native to central Europe.

58895. *PHALARIS BULBOSA* Jusl. Poaceæ. Grass.

A tufted, perennial grass, native to the Mediterranean countries, with coarse, stiff stems 3 to 4 feet in height. It makes good hay if cut as soon as the flower heads begin to appear and will stand a considerable amount of pasturing.

For previous introduction, see S. P. I. No. 55067.

58896. *RUBUS LASIOSTYLUS* Focke. Rosaceæ.

A wild raspberry from western China, with bluish white, bristly stems, small, pinnate leaves, silvery beneath, magenta flowers, and rose-colored, woolly fruits which are sweet but said to be of little use for eating.

58866 to 58898—Continued.

58897. *SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceae. Soybean.*

An unknown variety from which desirable strains may be obtained.

58898. *STIPA* sp. Poaceae. Grass.

Received as *Stipa papposa*, but does not agree with material in the National Herbarium.

58899. *LANDOLPHIA KIRKII* DELAGOEN-SIS Dewevre. Apocynaceae.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, division of botany. Received March 12, 1924.

This vine appears to be confined more or less to the Delagoa Bay region, and probably resembles very closely the species *Landolphia kirkii*, whose distribution extends as far north as Abyssinia and as far south as Zululand. *Landolphia kirkii*, which is regarded as the most important rubber vine in East Africa, being the source of "Zanzibar rubber," assumes a low-growing habit in dry regions, whereas under a heavy rainfall this same species may attain a height of 100 feet or more, with a stem measuring up to 10 or 12 inches in diameter.

If the quantity and quality of the rubber in the variety *delagoensis* is equal to that of the species, a valuable addition will have been made to the collection of rubber plants now being brought together for investigational purposes in southern Florida. (Alfred Keys, Bureau of Plant Industry.)

58900. *EUPHORBIA FULVA* Stapf. Euphorbiaceae.

Growing at the Chapman Field Garden, Coconut Grove, Fla., under P. I. G. No. 555. Numbered March, 1924.

Introduced for trial as a source of rubber.

The "Palo amarillo," as this tree is called in southwestern Mexico, produces latex which consists of a mixture of rubber and resin, and its value as a source of rubber appears to depend on the working out of a practical method for separating the resin from the rubber. This has already been done experimentally, both the rubber and resin proving to be of good quality.

The tree is about 30 feet high, with smooth, yellow bark, and grows in rocky soil in southern and western Mexico at altitudes of 5,000 to 6,000 feet. This information is based on an article appearing in the Kew Bulletin of Miscellaneous Information for 1907, page 294.

58901 to 58930.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received March 21, 1924.

58901 to 58903. *ACER* spp. Aceraceae. Maple.

58901. *ACER CAMPBELLII* Hook. f. and Thoms.

The pleasing contrast of the bright-green leaves and red stalks of this Himalayan maple make it worthy of trial as an ornamental shade tree for the warmer parts of the United States. In its native country the grayish white, moderately hard timber is used for cabinetwork and for planking.

For previous introduction, see S. P. I. No. 55669.

58902. *ACER HOOKERI* Miquel.

A handsome tree 40 to 50 feet high, with deeply fissured brown bark, native to the Sikkim Himalayas at altitudes of 8,000 to 10,000 feet. The oval leaves, though usually

58901 to 58930—Continued.

green, are sometimes copper colored. The wood is gray with small pores and very numerous, fine, red, medullary rays.

For previous introduction, see S. P. I. No. 56454.

58903. *ACER LAEVIGATUM* Wall.

A Himalayan maple whose broad, low crown suggests it for planting as a park tree in mild-wintered regions of the United States. The bark is yellowish or dark ash colored, and the leaves are a pleasing green. The hard, close-grained wood is shining white and is popular in Nepal for building purposes.

For previous introduction, see S. P. I. No. 50360.

58904. *BUDDLEIA COLVILEI* Hook. f. Loganiaceae.

With large, loose, terminal clusters of crimson flowers and dark-green leaves, this Himalayan relative of the well-known butterflybush has been called by some authorities the handsomest of the genus. It is a shrub or small tree, 30 to 40 feet high, and has proved hardy in some parts of England and Scotland.

For previous introduction, see S. P. I. No. 55675.

58905. *CALLICARPA RUBELLA* Lindl. Verbenaceae.

The chief attraction of this small Chinese shrub is its appearance in the fruiting stage, with its dense cymes of small, purple berries. The flat, yellowish green leaves, 4 to 5 inches long, contrast pleasingly with the small, pink flowers.

For previous introduction, see S. P. I. No. 47651.

58906. *ENKANTHUS DEFLEXUS* (Griffith) C. Schneid. (*E. himalaicus* Hook. f. and Thoms.). Ericaceae.

The whorled branches of this Himalayan shrub are characteristic of the entire genus and give the plant a peculiar appearance. The margins and petioles of the young leaves are red. The flowers, produced in dense, drooping racemes, have yellow corollas, striped dark red with darker lobes.

For previous introduction, see S. P. I. No. 49634.

58907. *ERYTHRINA ARBORESCENS* Roxb. Fabaceae.

When covered with its bright-scarlet flowers this small tree is very attractive and is often planted as an ornamental in the streets of Darjiling. There are but few prickles on its branches, and the thin, greenish leaves are often a foot in width. The strongly curved pods are about an inch wide and 6 to 9 inches long. The tree is found native in the central and eastern Himalayas at altitudes ranging up to 7,000 feet.

For previous introduction, see S. P. I. No. 55680.

58908 to 58910. *MICHELIA* spp. Magnoliaceae.

58908. *MICHELIA CATHCARTII* Hook. f. and Thoms.

A lofty tree with magnolia-like foliage and terminal white flowers about an inch in diameter. It is native in the temperate forests of the Sikkim Himalayas, where the moderately hard, dark-brown heartwood is used for planking and for making tea boxes.

For previous introduction, see S. P. I. No. 55689.

58901 to 58930—Continued.

58909. *MICHELIA EXCELSA* Blume.

As ornamental plants for the warmer portions of the United States the various species of magnolias have acquired great and well-deserved popularity, and it may be expected that *Michelia excelsa*, which belongs to the same family, will some day be widely cultivated in the southernmost parts of this country. This tall tree is native in the temperate Himalayas of northeastern India at altitudes of about 5,000 feet. The large, narrow leaves are silky brown beneath, and the beautiful, white flowers are 4 or 5 inches across.

For previous introduction, see S. P. I. No. 55690.

58910. *MICHELIA LANUGINOSA* Wall.

This species is characterized by the white woolly lower surfaces of its long, narrow, magnoliolike leaves. The white, solitary flowers are 3 to 4 inches across. Although this species is a spring-flowering tree in northern India, where it is native, in Sikkim it is said to form an autumn-flowering bush.

For previous introduction, see S. P. I. No. 55691.

58911. *NYSSA SESSILIFLORA* Hook. f. and Thoms. Cornaceæ.

An Asiatic relative of the black gum (*Nyssa sylvatica*), which is a tree 60 feet tall, with oblong, punctate leaves. The soft, gray, even-grained wood is used for building purposes.

For previous introduction, see S. P. I. No. 47741.

58912. *PICEA MORINDOIDES* Rehder. Pinaceæ. Spruce.

A Himalayan spruce of spreading habit, with slender pendulous branchlets. It becomes over 200 feet tall. The young cones are purple, turning to a pale brown when mature.

58913. *PICEA SMITHIANA* (Wall.) Boiss. (*P. morinda* Link.). Pinaceæ. Spruce.

The Himalayan spruce is a lofty tree found in the mountains of northwestern India at altitudes of 7,000 to 11,000 feet; the terminal, drooping, pale-green cones are 4 to 6 inches long. The stiff, sharp, spirally arranged green leaves are crowded into hanging, taillike twigs when young. The wood is extensively used for rough furniture and planking.

For previous introduction, see S. P. I. No. 55694.

58914 to 58930. *RHODODENDRON* spp. Ericaceæ.58914. *RHODODENDRON ANTHOPOGON* Don.

A small shrub, 1 foot high, with rough, densely scaly branches and leaves which are 1½ inches long, cinnamon brown beneath and, as it were, tomentose from the layer of glands. The yellow flowers are in numerous short terminal fascicles.

For previous introduction, see S. P. I. No. 49645.

58915. *RHODODENDRON BABBATUM* Wall.

The deep-red flowers of this arboreous rhododendron are borne in many-flowered heads. The bristly stemmed, oblong leaves are normally about 6 inches in length. In its native home in the temperate Himalayas this tree becomes 30 to 40 feet in height.

58916. *RHODODENDRON CAMELLIAEFLOREM* Hook. f.

A Himalayan rhododendron, 2 to 6 feet tall, with very thick, deep-green, leathery leaves and pure white or faintly pinkish flowers about 1½ inches wide.

For previous introduction, see S. P. I. No. 47851.

58901 to 58930—Continued.

58917. *RHODODENDRON CAMPANULATUM* Don?

A large evergreen shrub of stiff, spreading habit, sometimes as much as 12 feet in height, with oval leaves which are densely covered beneath with a red-brown felt. The flowers, produced during April in rather loose clusters about 4 inches wide, are various shades of rosy purple and about 2 inches across. This species, native to Sikkim and Nepal, is one of the hardier Himalayan rhododendrons, and in England it thrives in the vicinity of London.

58918. *RHODODENDRON CAMPHYLOCARPUM* Hook. f.

The foliage of this small, roundish bush is a bright, cheerful green, and contrasts splendidly with the numerous clusters of pale-yellow, slightly fragrant flowers. In Sikkim, India, where it is native, it grows at an altitude of 12,000 feet.

58919. *RHODODENDRON CILIATUM* Hook. f.

A Himalayan rhododendron, of somewhat dwarf habit, bearing many small, loose trusses of pinkish white flowers less than 3 inches wide. It rarely exceeds 6 feet in height.

For previous introduction, see S. P. I. No. 55698.

58920. *RHODODENDRON DALHOUSIAE* Hook. f.

This is said to be the finest rhododendron from northeastern India, chiefly because of the great size and beauty of the fragrant, white flowers, which resemble large lilies. It is a straggling shrub, 6 to 8 feet high, with smooth, dark-green leaves. The flowers, which occur in terminal clusters of three to five, are nearly 5 inches across.

For previous introduction, see S. P. I. No. 55699.

58921. *RHODODENDRON FALCONERI* Hook. f.

This shrub or tree, which sometimes attains a height of 30 feet, is native to northeastern India. The large, deep-green leaves, sometimes a foot long, and the whitish, densely clustered flowers make it a very fine ornamental.

For previous introduction, see S. P. I. No. 55700.

58922. *RHODODENDRON FULGENS* Hook. f.

A shrubby rhododendron, 6 to 12 feet high, from the alpine regions of the Himalayas, closely allied to *Rhododendron campanulatum*. It is chiefly distinguished by its blood-red flowers, about an inch wide and crowded in hemispherical trusses over 3 inches in width. It is native to Nepal and Sikkim, India, at altitudes of 10,000 to 14,000 feet.

58923. *RHODODENDRON GRANDE* Wight.

A handsome shrub about 15 feet high, native to the Himalayas. It bears numerous loose trusses of bell-shaped flowers about 2½ inches in diameter. These are at first suffused with a faint rose tint which later changes to white.

For previous introduction, see S. P. I. No. 47775.

58924. *RHODODENDRON HODGSONII* Hook. f.

This is considered one of the finest rhododendrons for foliage: the leathery, dark-green leaves are up to 18 inches in length, glossy above and covered with a brownish red down beneath. The rosy lilac flowers, 2 inches across, are in dense rounded trusses about 6 inches wide.

58901 to 58930—Continued.

58925. RHODODENDRON LANATUM Hook. f.

This species grows wild on the rocky spurs of the humid mountains and in gullies of the Sikkim Himalayas at altitudes of 10,000 to 12,000 feet. It is a large shrub or small tree, with the trunk 6 inches in diameter at the stoutest part, irregularly and repeatedly branching. The branches are much gnarled and bare of leaves and are covered with a dark-colored rugged bark, very different from the prevailing beautiful papery clothing of the genus. The flowers are a pale sulphur color.

58926. RHODODENDRON LEPIDOTUM Wall.

A very distinct evergreen species from the Himalayas and western China. It grows about 1½ feet high, forming a compact bush which produces during May numerous curious flat, purple or reddish blossoms.

For previous introduction, see S. P. I. No. 49649.

58927. RHODODENDRON MADDENI Hook. f.

A shrub 6 to 8 feet high with red-stemmed, dark-green leaves. The large, delicately fragrant flowers, tinged with rose, are produced in trees at the ends of the branches. Native to the Himalayas.

For previous introduction, see S. P. I. No. 55701.

58901 to 58930—Continued.

58928. RHODODENDRON ROYLEI Hook. f. (*R. cinnabarinum* Hook. f.).

The flowers of this evergreen shrub, produced in terminal heads, are usually a dull, cinnabar red, but in some forms the corolla is orange-red on the outside and yellowish within. It is native to the mountainous regions of Sikkim and Bhutan, India.

For previous introduction, see S. P. I. No. 47777.

58929. RHODODENDRON THOMSONII Hook. f.

The rich, blood-red flowers of this shrubby Himalayan rhododendron are 2 to 3 inches across and are produced in loose clusters of six or seven flowers. The small, roundish oval, dark-green leaves have blue-white lower surfaces. This species is not able to withstand very low temperatures; it thrives in the extreme southwestern part of England.

58930. RHODODENDRON WIGHTII Hook. f.

This species has very handsome trusses of large, pale-yellow flowers. It grows abundantly in wooded valleys in the Himalayas and on the spurs of all the mountains at an altitude of 12,000 to 14,000 feet.

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UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 79



Washington, D. C.



Issued March, 1927

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1924 (S. P. I. NOS. 58931 TO 60956)

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INTRODUCTORY STATEMENT

During the period covered by this, the seventy-ninth, Inventory of Seeds and Plants Imported, the actual number of introductions was much greater than for any similar period in the past. This was due largely to the fact that there were four agricultural exploring expeditions in the field in the latter part of 1923 and early in 1924, and the combined efforts of these in obtaining plant material were unusually successful.

Working as a collaborator of this office, under the direction of the National Geographic Society of Washington, D. C., Joseph L. Rock continued to carry on botanical explorations in the Province of Yunnan, southwestern China, from which region he has sent so much of interest during the preceding few years. The collections made by Mr. Rock, which arrived in Washington in the spring of 1924, were generally similar to those made previously in the same region, except that a remarkable series of rhododendrons, numbering nearly 500 different species, many as yet unidentified, was included. Many of these rhododendrons, as well as the primroses, delphiniums, gentians, and barberries obtained by Mr. Rock, promise to be valuable ornamentals for parts of the United States with climatic conditions generally similar to those of Yunnan.

While continuing his search for promising types of barley for the use of plant breeders in the United States, H. V. Harlan, of the Office of Cereal Crops and Diseases, journeyed through Abyssinia and Egypt. As a result of his visit to these countries a number of barley strains were collected (*Hordeum* spp., Nos. 60525 to 60551, 60675 to 60701), an interesting series of sorghums (*Holcus sorghum*, Nos. 60492 to 60524), and also local strains of oats, wheat, cotton, flax, peas, beans, and a number of forage grasses.

H. L. Shantz, of the Office of Plant Geography and Physiology, traveled through East Africa in 1924 for the African Educational Commission, under the auspices of the Phelps-Stokes Fund. In French Somaliland, Uganda, and Kenya, Doctor Shantz collected seeds of a large number of miscellaneous plants of economic interest, such as native grasses, cereals, cotton, and leguminous forage plants.

Fred D. Richey, of the Office of Cereal Crops and Diseases, and Prof. R. A. Emerson, of Cornell University, spent over three months in southern and western South America searching for varieties of corn likely to succeed in regions of low

summer temperature. A large series of promising types was obtained from the cool highlands of Argentina, Chile, Bolivia, and Peru (*Zea mays*, Nos. 59934 to 60167).

As in the past, many valuable introductions have been made through the courtesy of the numerous foreign correspondents of the office. Dr. N. I. Vavilov, director of the Bureau of Applied Botany and Plant Breeding, Leningrad, Russia, has sent in a large collection of seeds (Nos. 60744 to 60956) of native grasses and other forage plants and local strains of cereals, vegetables, and fiber plants. Since these come from regions where extreme conditions of cold and drought prevail, the collection should be of special value for the Great Plains area of the United States.

The shipment of seeds (Nos. 60335 to 60352) presented by Professor Murashinsky, of the Siberian Agricultural Academy, Omsk, Siberia, also promises to be of special interest for trial in the Great Plains area.

The 150 soy-bean samples from China and Japan will be of special interest to soy-bean specialists and others interested in this crop. When it is considered that the soy bean is a comparatively new crop in the United States, that new and better varieties have been displacing older varieties in rapid succession, and that this is due directly to new introductions or indirectly to selections from former introductions, the possibilities of the present collection are readily realized. Of the 34 leading commercial varieties of the United States, 27 are either direct introductions or selections from introductions. In 35 out of 38 States growing soy beans, introduced varieties lead all others in acreage and production.

Included in this inventory are several introductions of *Meibomia*, *Sesban*, and *Crotalaria*; these will be particularly interesting for testing in the Southern States for soil improvement and forage purposes. The recent favorable results in Florida with *Crotalaria striata* and the general satisfactory adaptation of species of *Meibomia* to the Southern States make these genera worthy of further attention.

New grasses of special interest are *Axonopus scoparius* (No. 58966), collected at Guayaquil, Ecuador, which is cultivated not only in that region but also in other parts of the high Andes; *Danthonia semiannularis* (No. 59361), the wallaby grass of Tasmania, where it provides good pasturage; and *Brachypodium mexicanum* (No. 59295), an annual Mexican grass with succulent leaves, which may prove of value in the southern United States.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,
Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., June 9, 1926.

INVENTORY¹

58931 and 58932. *CASTANOPSIS* spp. Fabaceæ.

From Buitenzorg, Java. Seeds presented by the Director of the Botanic Gardens. Received April 25, 1924.

58931. *CASTANOPSIS ARGENTEA* (Blume) A. DC.

This East Indian relative of the chestnut is an evergreen tree 50 to 60 feet in height, with narrow papery leaves and very dense clusters of spiny burs; each bur contains normally a single edible nut about an inch in diameter.

For previous introduction, see S. P. I. No. 57732.

58932. *CASTANOPSIS TUNGURRUT* (Blume) A. DC.

In Java, where this species is native, it is called "tungurrut" by the natives, who eat the small greenish nuts. The tree is very tall, becoming over a hundred feet in height, and the leathery greenish gray leaves are 5 to 8 inches in length. The burs, an inch and a half in diameter, are densely covered with tufts of curved spines and inclose one to three nuts.

58933. *SOLANUM TUBEROSUM* L. Sola- naceæ. Potato.

From Bogota, Colombia. Tubers presented by Hermano Apolinar Maria, Instituto de la Salle. Received June 6, 1924.

The yellow-fleshed potato is one of the most interesting varieties found in the Andean region, home of many remarkable potatoes. The tubers are rather small and have deep eyes, so that they are not as easily prepared for the table as those of some other varieties, but in point of quality they yield to none that I have tasted. The flesh is the color of American butter and has a rich, nutty flavor, suggesting that of the chestnut. It seems to me the variety might be improved so as to do away with the objectionable eyes and that it would then be worthy of extensive cultivation. (Wilson Popenoe, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 56803.

58934 to 58944. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Nanking, China. Seeds presented by T. S. Kuo, associate dean, College of Agriculture, National Southeastern University. Received June 9, 1924.

Introduced for soy-bean specialists.

58934. *I-ow* (green coat).

58934 to 58944—Continued.

58935. *I-ow* (white coat).

58936. *Nanking* (black).

58937. *Nanking* (green).

58938. *Nanking* (green coat).

58939. *Nanking* (large green).

58940. *Nanking* (small yellow).

58941. *Nanking* (tiger coat).

58942. A small bean used especially for sprouting and for curd.

58943. *Nanking Tea* (yellow).

58944. *Ver-nen* (green coat).

58945 to 58953. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Sapporo, Japan. Seeds presented by T. Abiko, agronomist, Hokkaido Agricultural Experiment Station. Received June 12, 1924.

Introduced for soy-bean specialists.

58945. *Chusei-Kuro-Daidzu*.

58946. *Gin-Daidzu*.

58947. *Kan-ro*.

58948. *Kuro-Saya*.

58949. *Kuro-Shoryu*.

58950. *Midzu-Kuguri*.

58951. *Nagaha-Saidzu*.

58952. *Ran-Koshi*.

58953. *Ishikari-Shiro*.

58954 to 58956. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Weihsien, Shantung, China. Seeds presented by Arthur L. Carson, Point Breeze Academy. Received June 11, 1924. Notes by Mr. Carson.

Introduced for soy-bean specialists.

58954. *Black beans*. A tall variety, used largely for animal feed.

58955. *Common yellow variety*; one of the most popular in Weihsien.

58956. *Green swamp beans*. A very tall variety adapted to swampy places.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in, so that definite identification can be made.

58957. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ.

Soy bean.

From Sapporo, Japan. Seeds presented by T. Abiko, agronomist, Hokkaido Agricultural Experiment Station. Received June 12, 1924.

Introduced for soy-bean specialists.

Hadaka-Daidzu.

58958. GARCINIA BINUCAO (Blanco) Choisy. Clusiaceæ. **Binukao.**

From Manila, Philippine Islands. Seeds presented by the Director of the Bureau of Agriculture. Received June 2, 1924.

The binukao, a relative of the mangosteen, is a handsome tree which is very common in certain parts of the Philippine Islands, notably in Luzon and the Visayan Islands. W. H. Brown, in "Wild Food Plants of the Philippines," states that the yellowish, rounded fruits, nearly 2 inches in diameter, with a very acid pulp and numerous seeds, are eaten with fish by the Filipinos. The small, red flowers are borne in dense clusters. The binukao will probably not endure low temperatures, since it comes from a tropical region.

58959 and 58960. HIBISCUS SABDA-RIFFA L. Malvaceæ.

From Kuala Lumpur, Federated Malay States. Seeds presented by the agriculturist, Department of Agriculture. Received June 9, 1924.

Variety *altissima*. A tall variety, first recognized in the Philippine Islands where it was grown from seed received from Senegal, West Africa. It is an annual plant with slender stalks 2 to 3 meters high. It differs from the more common roselle in being taller and in having calyx lobes less fleshy and is of little value for making jellies, jams, etc.

Tall roselle is cultivated to a limited extent in Senegal for fiber production, and during the past two or three years a syndicate has been trying to establish its cultivation in the Federated Malay States.

The fiber belongs to the jute group and is suitable for bags, burlaps, and twines. It is coarser and harsher than Indian jute. No efficient machinery has been devised for preparing bast fibers such as jute and roselle, and it would be impossible to produce these fibers profitably by hand labor in this country.

Tall roselle may be grown in the warmer parts of the Gulf States and in southern California. (L. H. Dewey, Bureau of Plant Industry.)

58959. Green form.

58960. Red form.

58961. CASTANOPSIS ARGENTEA (Blume) A. DC. Fagaceæ.

From Buitenzorg, Java. Seeds presented by Dr. J. J. Smith, 's Lands Plantentuin. Received June 12, 1924.

In the endeavor to establish in the United States blight-resistant chestnuts or related trees, Asiatic species of *Castanea* and *Castanopsis* are being introduced for trial. This species, from Java, is a large evergreen tree 50 to 60 feet tall, with dense clusters of spiny burs which inclose edible nuts about an inch in diameter.

For previous introduction, see S. P. I. No. 58931.

58962. MEIBOMIA OLDHAMI (Oliver) Kuntze (*Desmodium oldhami* Oliver). Fabaceæ.

From Leningrad, Russia. Seeds presented by W. I. Kousnetzoff, in charge of forage plants, Bureau of Applied Botany. Received June 12, 1924.

A slender, unbranched Japanese species, 2 to 4 feet high, with leaves 5 to 10 inches long.

58963. FUNTUMIA ELASTICA (Preuss) Stapf. Apocynaceæ.

Lagos rubber tree.

From Akkra, Gold Coast Colony, Africa. Seeds presented by W. S. D. Tudhope, Director, Agricultural Department. Received April 2, 1924.

A large forest tree which is very widely distributed throughout central Africa and is the source of Lagos rubber, the quality of which is but little inferior to that of Para rubber.

Though of doubtful value for growing commercially even in the most favorable parts of the United States, this plant is being introduced with a view of including it in the collection of rubber plants now being brought together in southern Florida for investigation purposes.

For previous introduction, see S. P. I. No. 42367.

58964. LILIUM PHILIPPINENSE Baker. Liliaceæ. **Benguet lily.**

From Taihoku, Formosa, Japan. Bulbs presented by R. Kanehira, director, Experimental Station of Forestry. Received April 2, 1924.

A semihardy Philippine lily with a slender green stem, sometimes purple dotted, 1 to 2 feet high, 30 to 40 narrow horizontal, recurved leaves 3 to 5 inches long, and delicately fragrant, pure waxy white flowers, 8 inches long, tinged green near the base, with yellow anthers. This species is best suited for pot culture in cold regions.

For previous introduction, see S. P. I. No. 50311.

58965. NICOTIANA SUAVEOLENS Lehm. Solanaceæ.

From Sydney, New South Wales. Seeds presented by J. H. Maiden, director, Botanic Gardens. Received April 2, 1924.

This Australian relative of the common tobacco-producing species is a herbaceous annual or biennial, native to sandy, hilly regions throughout most of Australia. It is said that in former times the leaves were chewed by the natives. The plant is readily eaten by stock. It is now introduced for the use of specialists who are studying the narcotic properties of the Solanaceæ.

58966. AXONOPUS SCOPARIUS (Fluegge) Hitchc. (*Paspalum scoparium* Fluegge). Poaceæ.

From Guayaquil, Ecuador. Seeds collected by A. S. Hitchcock, Bureau of Plant Industry. Received April 2, 1924.

This South American grass is used at low altitudes for forage, being cut green and fed as is done with guinea grass. I saw it first on the estate of J. A. Cleveland, of Guayaquil, in the rain belt at the foot of the mountains near Bucay. The grass is set out from plants obtained by division of the roots. It is called there "gramalote." I suspect this name is the same as gamalote, which is used for a different species in some other countries. The grass appears to be looked upon with favor, as it is large and succulent and produces abundant forage. It is preferred to guinea grass, which grows under about the same conditions. I found the same grass again in the Perene Valley of central Peru at an altitude of about 2,000 feet. There it is called maicillo and is used in competition with guinea grass. It appeared again in the Yungas region of Bolivia. It is there called cachi. In the intermediate altitude from 5,000 to 8,000 feet it was the only forage obtained for our mules while traveling. Throughout the region the grass is native and has been transferred to cultivation. (Hitchcock.)

58967 and 58968. RUBUS spp. Rosa-ceæ.

From Chester, England. Plants purchased from Dicksons' Nurseries. Received April 2, 1924.

Introduced for horticulturists experimenting with small fruits.

58976. RUBUS BIFLORUS Buch.-Ham.

A rambling shrub, with large leaves, woolly beneath and subacid yellow berries about the size of a thimble.

58968. RUBUS FRUTICOSUS L. Blackberry.

Var. *rubra plena*. A blackberry with double red flowers.

58969 and 58970.

From Cairo, Egypt. Seeds purchased from the director, Egyptian Seed Co. Received April 3, 1924.

Introduced for forage-crop specialists.

58969. MEDICAGO SATIVA L. Fabaceæ.

Hegazi. A local strain grown in Egypt.

58970. TRIFOLIUM ALEXANDRINUM L. Fabaceæ.

Miskawi. One of the principal types of berseem grown in Egypt.

58971 and 58972. DIOSPYROS KAKI L. f. Diospyraceæ. Kaki.

From Weihsien, Shantung, China. Scions presented by Ralph C. Wells, Point Breeze Academy. Received April 4, 1924. Notes by Mr. Wells.

These two varieties are from Tsingchowfu and were sent in by A. L. Carson, of Weihsien, Shantung.

58971. *Tishihitsu* (iron persimmon). A relatively nonastringent variety.

58972. *Toashihitsu* (palm-of-the-hand persimmon).

58973. DIOSCOREA sp. Dioscoraceæ. Yam.

From Barbados, British West Indies. Tubers presented by John R. Bovell, Director of Agriculture. Received April 23, 1924.

Antigua white. This variety, which I believe is a sport, I consider one of the best of the white yams. Its history is as follows: A planter in the island of Antigua bought a yam for cooking purposes and, as it was rather large, only a portion of it was used for cooking. It proved to be of such good flavor that the remainder was planted and subsequently propagated for distribution. These tubers which I am sending are of this variety. (Bovell.)

58974. LUCUMA MULTIFLORA DC. Sapotaceæ.

From San Jose, Costa Rica. Seeds presented by Carlos Werckle. Received April 3, 1924.

This West Indian tree is a close relative of the lucuma (*Lucuma obovata*) whose bright-yellow, mealy-fleshed fruits are popular in the Andean regions of South America. The leaves of the West Indian species are leathery and oblong and the edible fruit is nearly an inch in diameter. It may prove to be adapted to the southern part of Florida.

58975 and 58976.

From Tripoli, Libia, North Africa. Bud wood presented by Dr. E. O. Fenzi. Received April 1, 1924. Notes by Doctor Fenzi.

58975. MALUS sp. Malaceæ. Apple.

Gurras, an extra early native variety. This is of good size and very juicy, and it ripens at the same time as the earliest apricots.

58975 and 58976—Continued.**58976. PRUNUS ARMENIACA L. Amygdalaceæ. Apricot.**

Ain thor (bull's eye); also *bergsam*. A very large tree, taller and more vigorous than any other kind; leaves thin, irregularly toothed; fruit globular, with hardly any groove, weight about 40 grams, diameter 40 mm.; skin scarcely tomentose, reddish yellow, adhering closely to the flesh; flesh more juicy than that of any other kind, with flavor more like that of a plum than an apricot, adhering closely to the smooth stone. Not common.

58977. DAVIDIA INVOLUCRATA Baill. Cornaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29, 1924.

Nos. 11234 (fruit), 9067 (flowers). October, 1923. A handsome tree 30 to 40 feet high which grows on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 10,000 feet. The flowers are between two very large, cream-colored bracts the size of one's hand. The fruits are deep-blue drupes. (Rock.)

58978 and 58979. SESBAN spp. Faba-ceæ.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received April 5, 1924.

58978. SESBAN ACULEATUM (Schreb.) Poir.

A tall-growing, annual, leguminous plant from tropical and subtropical Asia, which is used there as green manure and also for fodder. It is a vigorous grower and is said to thrive in semiarid regions. Introduced for forage-crop specialists.

58979. SESBAN AEGYPTIACUM Poir.

In Porto Rico and also in western Java the leaves and young branches of this yellow-flowered shrub are used for fodder, and it is now introduced for the use of forage-crop specialists.

For previous introduction, see S. P. I. No. 54894.

58980 to 58985. RUBUS spp. Rosa-ceæ. Raspberry.

From Orleans, France. Plants purchased from E. Turbat & Co. Received April 2, 1924. Quotations from catalogue of Millet & Fils.

Introduced for testing by horticulturists engaged in raspberry breeding.

58980. RUBUS sp.

"*All Summer*. An everbearing variety with large red fruits of good quality."

58981. RUBUS sp.

"*Améliorée de Congy*. A vigorous variety with red fruits of excellent quality."

58982. RUBUS sp.

"*Belle de Fontenay*. An everbearing variety, with sweet, red, round fruits of very good quality."

58983. RUBUS sp.

"*Perpétuelle de Ballard*. An everbearing variety which bears a large crop of very fine red fruits."

58984. RUBUS sp.

"*Superlative Perpétuelle*. Fruits red, very large, with an aromatic sweet flavor."

58985. RUBUS sp.

"*Surpasse merveille*. An everbearing variety with medium-sized white fruits."

58986. SPARTINA TOWNSENDI Groves.
Poaceae. Grass.

From London, England. Seeds presented by Prof. F. W. Oliver, University College, London, through A. S. Hitchcock, Bureau of Plant Industry. Received April 4, 1924.

Professor Oliver regards *Spartina townsendi* as a probable hybrid between *Spartina stricta* and *S. alterniflora*. It appeared at Hythe, Southampton, England, about 1879, and has spread rapidly on the mud flats, reclaiming the land. Professor Oliver says that it is eaten eagerly by cattle and pigs and is also promising as a paper-making material, but the cost of harvesting is large at present. We consider this species to be the same as *S. alterniflora* Loisel., which is found on the shores of Nova Scotia and New Brunswick, south to Maine. (Hitchcock.)

58987. TRIFOLIUM AFRICANUM GLABELLUM Harv. Fabaceae. Clover.

From Cedara, Natal, Union of South Africa. Seeds presented by W. S. Hall, assistant experimentalist, School of Agriculture. Received April 5, 1924.

An indigenous Natal perennial clover which is a very vigorous grower, forming a thick sward which smothers adjacent plots of other clovers unless cut back. After three years the plot begins to deteriorate. In its native country this variety thrives in moist places. Introduced for agronomists engaged in breeding new types of clover.

58988. CEREUS VALIDUS Haw. Cactaceae.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received April 7, 1924.

A tall, picturesque plant, which produces fruit the size of a goose egg and of a beautiful magenta color. These fruits are absolutely without spicules and of very good taste. Doctor Proschowsky remarks that he knows of no other fruit which is so "melting," and it resembles much the "snows" sold in Latin-American countries, consisting of real snow mixed with fruit juice or sugar. (David Fairchild, Bureau of Plant Industry.)

58989 and 58990. CITRUS SINENSIS (L.) Osbeck. Rutaceae. Sweet orange.

From Soledad, Cienfuegos, Cuba. Bud wood presented by R. M. Grey, superintendent, Cuban Gardens. Received April 8, 1924. Notes by Mr. Grey.

58989. Harvard No. 1. This is one of the best seedlings we have ever raised here and has been in cultivation for many years. The tree forms a compact head, with deep rich-green foliage; it is drought resistant, and has borne splendid crops here every year. The fruit is medium to large, starts to ripen early in November, and remains firm and juicy until May. The skin is a rich orange color, of medium thickness; the flesh is of fine texture and quality, sweet in flavor and few seeded.

58990. Harvard No. 2. A late bud sport of Valencia. The tree is of spreading habit and a prolific bearer. The fruit is of good size, few seeded, does not ripen until February, but retains its firmness and juice until late October. The skin is pale yellow, quite thin and smooth; the flesh is of excellent quality and of pleasant, mild, sweet flavor.

58991 to 58996. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Coimbatore, Madras Presidency, India. Cuttings presented by T. S. Venkatraman, Government sugar-cane expert, Agricultural College. Received April 3, 1924.

These varieties have been found eminently suited for cultivation in northern India. (Venkatraman.)

58991 to 58996—Continued.

58991. Co. 205.	58994. Co. 214.
58992. Co. 210.	58995. Co. 232.
58993. Co. 213.	58996. Co. 281.

58997 to 58999. RUBUS spp. Rosaceae. Blackberry.

From Concepcion, Province of Chirique, Panama. Plants presented by J. R. Genuit. Received April 15, 1924.

These are wild species, likely to prove of interest in the warmest portions of the United States.

58997. RUBUS sp.	58999. RUBUS sp.
Black fruits.	Salmon-colored fruits.
58998. RUBUS sp.	
Pink fruits.	

59000 to 59268.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 4, 1924. Notes by Mr. Rock.

59000. ACONITUM sp. Ranunculaceae.

No. 11428. November, 1923. A plant 3 feet tall found growing in alpine meadows between 12,000 and 13,000 feet altitude in the Likiang Snow Range. The leaves are finely palmatisect, and the pale purplish, silky blue flowers are in dense spikes.

59001. ACONITUM sp. Ranunculaceae.

No. 11457. November, 1923. A plant 3 to 4 feet tall from alpine meadows in the fir forest at an altitude of 11,000 feet, Sungkwe Mountains. It has large leaves and long spikes of large, pale-blue flowers.

59002. ANDROSACE SPINULIFERA (Franch.) Knuth. Primulaceae.

No. 11411. November, 1923. Likiang Snow Range. A plant 1 to 2 feet high found growing in dry rocky limestone regions at about 11,000 feet altitude. The rosette of spatulate leaves and umbels of rich pink flowers make it very attractive.

For previous introduction, see S. P. I. No. 55253.

59003. BERBERIS DICTYOPHYLLA Franch. Berberidaceae.

No. 11462. Mahoangpatze. November, 1923. A spiny shrub 5 to 6 feet high, found in alpine meadows, Likiang Snow Range. The leaves are glaucous, the flowers yellow, and the fruits red.

For previous introduction, see S. P. I. No. 56293.

59004. BUDDLEIA FORRESTII Diels. Loganiaceae.

No. 11432. November, 1923. A very attractive shrub found only in limestone soil on the Likiang Snow Range at from 9,000 to 10,000 feet altitude. It has white woolly leaves and spikes of lavender-blue flowers.

For previous introduction, see S. P. I. No. 56294.

59005. CAMPANULA sp. Campanulaceae.

No. 11405. October, 1923. A plant 2 to 3 feet tall found growing in pine forests at Saba and also in meadows at about 12,000 feet altitude on the Likiang Snow Range. The leaves are lanceolate, and the drooping flowers are deep indigo blue.

59006. CARAGANA sp. Fabaceae.

Nos. 11330 (fruit), 9243 (flowers). November, 1923. A shrub 1 to 2 feet high which forms spiny cushions on rocky slopes at 15,500 to 16,000 feet altitude on the Yangtze-Mekong Divide. The branches are covered with gray pubescence, and the flowers are a rich pinkish purple.

59000 to 59268—Continued.

59007. *CORYLOPSIS* sp. Hamamelidaceæ.

No. 11226. October, 1923. A very handsome tree 20 feet high found at 10,000 feet altitude on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide. The leaves are fan-shaped with prominent veins which radiate like segments of a fan.

59008. *CORYLUS TIBETICA* Batal. Betulaceæ. Hazel.

No. 11136. November, 1923. A small tree 30 to 40 feet high found at 10,000 feet altitude in the forests of Sila Pass on the Mekong-Salwin Divide. The thin green leaves are large and ovate serrate; the echinate fruits are in threes, and the nuts are small.

For previous introduction, see S. P. I. No. 46406.

59009. *CREMANTHODIUM* sp. Asteraceæ.

No. 11440. November, 1923. A plant about 1 foot high, found in alpine meadows on the Likiang Snow Range at an altitude of 12,000 feet. The oval leaves are in basal rosettes, and the large flower heads have drooping golden ray florets.

59010. *DELPHINIUM* sp. Ranunculaceæ.

No. 11407. November, 1923. A plant 2 to 3 feet high found in crevices of limestone boulders, Likiang Snow Range, at an altitude of 11,000 feet. The leaves are broadly palmatisect, and the flowers are purplish blue. The plant spreads from the base.

59011. *DELPHINIUM* sp. Ranunculaceæ.

No. 11458. November, 1923. A plant 1 foot high found on alpine slopes of the Likiang Snow Range at 14,000 feet altitude. The leaves form a basal rosette, and the large hairy blue-lavender flowers grow in dense globose spikes.

59012. *GENTIANA* sp. Gentianaceæ.

No. 11399. November, 1923. A handsome moisture-loving herb a foot tall found in alpine meadows at 11,000 feet altitude on the Likiang Snow Range. The very large flowers have long, tubular, salver-shaped corollas of deep indigo blue.

59013. *GENTIANA* sp. Gentianaceæ.

No. 11400. November, 1923. A very attractive species found covering acres of alpine meadows at Harakin in the Likiang Snow Range. The plant is prostrate and only 5 or 6 inches high; the urn-shaped flowers are Prussian blue with white stripes.

59014. *GENTIANA* sp. Gentianaceæ.

Nos. 11400 (fruit), 8907 (flowers). November, 1923. Plants found growing in limestone soil in meadows of Saba, Likiang Snow Range, at 11,000 feet altitude. The leaves are in linear rosettes, and the large flowers are deep indigo blue with paler stripes.

59015. *GENTIANA* sp. Gentianaceæ.

No. 11448. November, 1923. A small plant a foot high found in alpine meadows of the Likiang Snow Range at 12,000 feet altitude. The leaves are linear-lanceolate, and the bluish purple flowers grow in globose heads on long stems.

59016. *GENTIANA* sp. Gentianaceæ.

No. 11450. November, 1923. A prostrate plant 1 to 2 feet long found in alpine meadows of the Likiang Snow Range at 12,000 feet altitude. The flowers are yellow.

59017. *GENTIANA* sp. Gentianaceæ.

No. 11466. November, 1923. A small plant 10 inches high found in alpine meadows of the Likiang Snow Range at 13,000 feet altitude. The small, elliptic leaves clasp the stem; the flowers are blue with a purple tinge.

59000 to 59268—Continued.

59018. *GENTIANA* sp. Gentianaceæ.

No. 11474. November, 1923. A plant 2 inches high with deep-blue flowers found at 13,000 feet altitude in alpine meadows of the Likiang Snow Range.

59019. *GENTIANA* sp. Gentianaceæ.

No. 11477. November, 1923. A small herbaceous plant 8 to 10 inches high found in pine forests and meadows on the Likiang Snow Range at 10,000 feet altitude. The leaves are small and linear and the flowers tubular and blue.

59020. *GENTIANA* sp. Gentianaceæ.

No. 11478. November, 1923. A prostrate plant found in moist meadows of the Likiang Snow Range. The large erect flowers are dark blue striped with yellow, and the fleshy leaves are needle shaped.

59021. *IRIS* sp. Iridaceæ.

Nos. 11486 (fruit), 10209 (flowers). November, 1923. A plant 1 to 2 feet tall found growing in clumps in moist meadows on the Likiang Snow Range at 11,000 feet altitude. The flowers are dark blue.

59022. *PIERIS* sp. Ericaceæ.

* No. 11414. November, 1923. A handsome shrub 3 to 4 feet high which forms dense bushes; found growing in pine forest outskirts on the Likiang Snow Range at 10,000 feet altitude. The elliptical leaves are shining dark green, and the bell-shaped white flowers are in erect spikes.

59023. *POTENTILLA* sp. Rosaceæ.

No. 11464. November, 1923. A plant found in alpine meadows of the Likiang Snow Range at 9,000 to 10,000 feet altitude. The leaves are trifoliate, and the yellow flowers are in large racemes.

59024 to 59028. *PRIMULA* spp. Primulaceæ. Primrose.59024. *PRIMULA* sp.

Nos. 10895 (fruit), 8904 (flowers). November, 1923. A very handsome species found in moist alpine meadows of Londjre, southeastern Tibet, at 12,000 to 13,000 feet altitude. The large flowers are deep indigo blue.

59025. *PRIMULA CALLIANTHA* Franch.

Nos. 10962 (fruit), 9079 (flowers). November, 1923. Plants collected in the alpine meadows of the Mekong Valley at 12,000 feet altitude. The linear-lanceolate leaves are glabrous, and the large drooping flowers are rich purplish blue with large calyxes striped with white.

59026. *PRIMULA CALLIANTHA* Franch.

Nos. 11137 (fruit), 9967 (flowers). November, 1923. A plant found in the alpine meadows of the Peima Mountains at 14,000 feet altitude. The linear-lanceolate leaves are thin and green; the large flowers are rich purple.

59027. *PRIMULA INGENS* W. W. Smith and Forrest.

Nos. 11327 (fruit), 9291 (flowers). November, 1923. A plant about 2½ feet high found in the alpine meadows of the Peima Mountains at 13,000 feet altitude. The linear leaves are glabrous, and the bluish purple flowers are in globose heads.

59028. *PRIMULA* sp.

No. 11350. November, 1923. A plant 2 feet high found on mossy forest banks along the trail near the summit of Shundsangtu at 13,000 feet altitude. The leaves are lanceolate and the flowers are purple.

59000 to 59268—Continued.

59029. *RHODODENDRON CEPHALANTHUM* Franch. Ericaceae.

Nos. 11323 (fruit), 9074 (flowers). November, 1923. A shrub 2 feet high found among rocks in the alpine region of Yetchu, on the Mekong River. The leaves are small and elliptical with brownish wool beneath; the tubular flowers are white.

59030 to 59263. *RHODODENDRON* spp. Ericaceae.

59030. *RHODODENDRON* sp.

No. 10895. November, 1923. A spreading shrub, 3 feet tall, found growing in masses in the moist open places in fir forests on the Tibetan border, northwestern Yunnan, at 13,000 feet altitude. The elliptical-oblong leaves are covered with fawn-colored tomentum beneath, and the flowers are a deep blackish carmine.

59031. *RHODODENDRON* sp.

Nos. 10894 (fruit), 8911 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing on moist alpine slopes on the Londjre Mountains in southeastern Tibet. The elliptical leaves are fawn-colored beneath, and the large rich crimson flowers are on long pubescent pedicels.

59032. *RHODODENDRON* sp.

Nos. 10896 (fruit), 8880 (flowers). November, 1923. A large shrub 7 to 8 feet high found on the slopes of the Londjre Mountains, southeastern Tibet. The leaves are large, oblong, glabrous, and a yellowish brown. The deep rich pink flowers are in umbels.

59033. *RHODODENDRON* sp.

No. 10897. November, 1923. A small shrub from 2 to 3 feet high found on the alpine meadows of the Londjre Mountains, southeastern Tibet, at from 12,000 to 13,000 feet altitude. The small elliptic leaves are white beneath, and the flowers vary from rich crimson to carmine.

59034. *RHODODENDRON* sp.

Nos. 10899 (fruit), 10306 (flowers). November, 1923. A small shrub found growing on the alpine slopes of the Londjre Mountains, southeastern Tibet. The elliptical leaves are gray beneath, and the large purple flowers are yellowish at the base.

59035. *RHODODENDRON* sp.

Nos. 10900 (fruit), 10218 (flowers). November, 1923. A small shrub 1 to 2 feet high found growing on the alpine slopes of the Londjre Mountains, southeastern Tibet. The small elliptical leaves are brown beneath, and the large pink flowers grow in racemes.

59036. *RHODODENDRON* sp.

Nos. 10901 (fruit), 10272 (flowers). November, 1923. A small shrub 1 to 2 feet high found on the alpine slopes of the Londjre Mountains, southeastern Tibet. The small oblong leaves are brown beneath, and the deep reddish black flowers have carmine calyxes.

59037. *RHODODENDRON* sp.

Nos. 10902 (fruit), 8915 (flowers). November, 1923. A small shrub 2 to 3 feet high found on the alpine slopes of the Londjre Mountains, southeastern Tibet, Yunnan. The elliptical leaves are grayish green beneath, and the flowers are a rich yellow.

59038. *RHODODENDRON* sp.

Nos. 10903 (fruit), 10265 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing on the alpine meadows of the Londjre Mountains, southeastern Tibet, Yunnan. The small elliptical leaves are white beneath, and the large flowers are yellowish red.

59000 to 59268—Continued.

59039. *RHODODENDRON* sp.

Nos. 10904 (fruit), 10277 (flowers). November, 1923. A small shrub 1 to 2 feet high found growing in masses on the alpine slopes of the Londjre Mountains in southeastern Tibet and northwestern Yunnan. The small, elliptical, glaucous leaves are gray beneath, and the deep-crimson flowers are on short hairy pedicels.

59040. *RHODODENDRON* sp.

Nos. 10905 (fruit), 8912 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in masses in moist places on the Londjre Mountains at from 12,000 to 13,000 feet altitude. The small, elliptical leaves are deep chocolate color beneath, and the blackish crimson flowers are on short pedicels.

59041. *RHODODENDRON* sp.

Nos. 10906 (fruit), 8914 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in masses in the Londjre Mountains, southeastern Tibet and northwestern Yunnan, at 13,000 feet altitude. The elliptical leaves are white tomentose beneath, and the flowers are a rich yellow.

59042. *RHODODENDRON* sp.

Nos. 10907 (fruit), 10285 (flowers). November, 1923. A low shrub from 1 to 2 feet high found growing in moist places on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at altitudes between 12,000 and 13,000 feet. The small leaves are glabrous, and the flowers are pink.

59043. *RHODODENDRON* sp.

Nos. 10908 (fruit), 8879 (flowers). November, 1923. A tree 8 to 10 feet high found growing in a fir forest on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 12,000 feet altitude. The large leaves are subglabrous beneath and pale brown; the rich pink flowers are in large umbels.

59044. *RHODODENDRON* sp.

Nos. 10909 (fruit), 10268 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in masses on the alpine slopes of the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 13,000 feet altitude. The elliptical-oblong leaves are brownish beneath, and the flowers are deep red.

59045. *RHODODENDRON* sp.

Nos. 10910 (fruit), 8886 (flowers). November, 1923. A shrub 4 feet high found growing in fir forests on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 12,000 feet altitude. The large glabrous green leaves are golden yellow beneath, and the large pink flowers, which grow in large umbels, have a purplish tinge.

59046. *RHODODENDRON* sp.

Nos. 10911 (fruit), 10276 (flowers). November, 1923. A small shrub 1 to 1½ feet high found growing in masses on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 12,000 feet altitude. The linear-lanceolate leaves are drab colored beneath, and the flowers are very dark crimson.

59047. *RHODODENDRON* sp.

Nos. 10912 (fruit), 8782 (flowers). November, 1923. A shrub 3 to 4 feet high found growing on the middle slopes of the Tschung Mountains, Mekong, northwestern Yunnan, at 10,000 feet altitude. The small ovate-elliptical leaves are drab colored beneath, and the branches are slender. The flowers are a beautiful pink.

59000 to 59268—Continued.

59048. RHODODENDRON sp.

Nos. 10913 (fruit), 8827 (flowers). November, 1923. A tree 8 to 10 feet high collected in a fir forest on the Tsechung Mountains at the Mekong watershed, 14,000 feet altitude. The large oblong leaves are drab colored beneath, and the very large pink flowers grow in dense umbels.

59049. RHODODENDRON sp.

Nos. 10914 (fruit), 10081 (flowers). November, 1923. A small shrub 1 to 2 feet high found growing on rocky alpine slopes of the Tsechung Mountains at 14,000 feet altitude. The very small oval leaves are one-half inch long, and the rich golden-yellow flowers are in dense clusters.

59050. RHODODENDRON sp.

Nos. 10915 (fruit), 8778 (flowers). November, 1923. A shrub 5 feet high found growing on the middle slopes of the Tsechung Mountains, Mekong Valley, at 10,000 feet altitude. The leaves are small, elliptical, and glabrous, and the medium-sized flowers are pale pink.

59051. RHODODENDRON sp.

Nos. 10916 (fruit), 9125 (flowers). November, 1923. A shrub 3 to 4 feet high found growing in rocky alpine regions of the Tsechung Mountains at 11,000 feet altitude. The oblong leaves are deep brown beneath, and the rich pink flowers are mottled with purple.

59052. RHODODENDRON sp.

Nos. 10917 (fruit), 8831 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in the alpine meadows of Tsechung at 12,000 feet altitude. The oblong leaves are small, and the small yellow flowers grow on long pedicels.

59053. RHODODENDRON sp.

Nos. 10919 (fruit), 9083 (flowers). November, 1923. A low shrub 2 feet high found on the slopes of the Tsechung Mountains at 10,000 feet altitude. The small elliptical leaves are glaucous greenish beneath, and the little yellow flowers are on long pedicels. This plant is very rare.

59054. RHODODENDRON sp.

Nos. 10925 (fruit), 10093 (flowers). November, 1923. A shrub 5 feet high found in the alpine regions of Tsechung at 11,000 to 12,000 feet altitude. The leaves are large, obovate, glabrous, and green on both sides, and the rich golden-yellow flowers are in large umbels.

59055. RHODODENDRON sp.

Nos. 10926 (fruit), 9131 (flowers). November, 1923. A low-growing shrub 1 to 2 feet high found in alpine regions of Tsechung at 12,000 feet altitude. The elliptic leaves are drab to white beneath, and the medium-sized flowers are a deep purple-carmine.

59056. RHODODENDRON sp.

Nos. 10927 (fruit), 9224 (flowers). November, 1923. A shrub 2 feet high found in alpine regions of Tsechung at 12,000 feet altitude. The elliptical leaves are white beneath with yellow veins, and the large flowers are a rich crimson.

59057. RHODODENDRON sp.

Nos. 10959 (fruit), 8769 (flowers). A shrub 3 to 4 feet high found in the alpine regions of Tsechung at 14,000 feet altitude. The linear-

59000 to 59268—Continued.

lanceolate leaves are covered beneath with a brown, deciduous wool, and the flowers are a rich crimson with a purple tinge.

59058. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10960 (fruit), 9106 (flowers). November, 1923. A large shrub 6 feet high found in a spruce forest on the slopes of the Tsechung Mountains at 10,000 feet altitude. The large, leathery leaves are oblong, acuminate, and nearly brown beneath, while the big flowers are cream colored.

59059. RHODODENDRON sp.

Nos. 10961 (fruit), 9152 (flowers). November, 1923. A shrub 4 to 5 feet high found growing in rocky alpine regions of the Tsechung Mountains. Its leaves are ovate acute and glabrous, and the pure pale-pink flowers grow in open umbels on slender pedicels.

59060. RHODODENDRON sp.

Nos. 10963 (fruit), 8834 (flowers). November, 1923. A shrub 3 to 4 feet high found in alpine meadows of the Tsechung Mountains at 12,000 feet altitude. The oval leaves are glabrous and the flowers a deep reddish purple.

59061. RHODODENDRON REPENS Balf. f. and Forrest.

Nos. 10964 (fruit), 9133 (flowers). November, 1923. A prostrate plant only a few inches tall which forms mats in the alpine regions of the Tsechung Mountains at 13,000 feet altitude. It has small elliptical leaves and rich carmine flowers.

59062. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10977 (fruit), 9144 (flowers). October, 1923. A shrub 5 feet high found on the slopes of the Tsechung Mountains at 10,000 feet altitude. The oblong-acuminate leaves are covered with a brown tomentum beneath, and the flowers are pink spotted with purple.

59063. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10978 (fruit), 9117 (flowers). October, 1923. A shrub 7 to 8 feet high found on the slopes of the Tsechung Mountains overlooking the Mekong Valley at 10,000 feet altitude. The oblong leaves are brownish tomentose beneath, and the flowers are pink.

59064. RHODODENDRON sp.

No. 10979. October, 1923. A shrub 5 feet high found in the alpine regions of the Tsechung Mountains at 11,000 feet altitude. The linear-oblong leaves are rufous beneath, and the flowers are pink.

59065. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10980 (fruit), 9136 (flowers). October, 1923. A shrub only 4 feet high found in the alpine region of Tsechung, Mekong Valley. The small leaves are ovate elliptical and covered with brown tomentum beneath; the flowers are white.

59066. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10981 (fruit), 9115 (flowers). October, 1923. A shrub 8 feet high found on the slopes of the Tsechung Mountains, Mekong Valley, at 10,000 feet altitude. The oblong leaves are a rich green and covered with yellow tomentum beneath; the white flowers are spotted with purple.

59000 to 59268—Continued.

59067. *RHODODENDRON IXEUTICUM* Balf. f. and Smith.

Nos. 10982 (fruit), 9135 (flowers). October, 1923. A shrub 6 feet high found on the slopes of the Tsechung Mountains, Mekong Valley, at 10,000 feet altitude. The leaves are linear-lanceolate and covered with yellow tomentum beneath; the large flowers are white.

59068. *RHODODENDRON IXEUTICUM* Balf. f. and Smith.

No. 10983. October, 1923. A shrub 5 feet high found in spruce forests on the slopes of the Tsechung Mountains, Mekong Valley, at 10,000 feet altitude. The oblong-acuminate leaves are rufous brown beneath, and the large white flowers are borne in large umbels.

59069. *RHODODENDRON* sp.

No. 10984. October, 1923. A shrub 3 feet high found on the alpine slopes of the Tsechung Mountains at 12,000 feet altitude. The obovate leaves are densely matted beneath with chocolate-colored tomentum; the flowers are deep blackish crimson.

59070. *RHODODENDRON* sp.

Nos. 10985 (fruit), 9140 (flowers). October, 1923. A shrub 3 feet high found in the alpine regions of the Tsechung Mountains at 12,000 feet altitude. The large obovate leaves are dull green above and chocolate colored beneath; the flowers are deep crimson.

59071. *RHODODENDRON* sp.

Nos. 10986 (fruit), 8789 (flowers). October, 1923. A small shrub 3 to 4 feet high found in the alpine regions of the Tsechung Mountains at 14,000 feet altitude. The oval leaves are glabrous and the flowers a rich lavender.

59072. *RHODODENDRON* sp.

Nos. 10987 (fruit), 8785 (flowers). October, 1923. A large shrub 5 feet high found in fir forests in the alpine regions of the Tsechung Mountains at 13,000 feet altitude. The leaves are large, oblong, acute, and glabrous, but brown beneath; the flowers are a rich reddish purple.

59073. *RHODODENDRON* sp.

Nos. 10989 (fruit), 9102 (flowers). October, 1923. A tall shrub 8 feet high found in the forests of Tsechung at 10,000 feet altitude. The leaves are large, oblong, acute, glabrous, and pale beneath; the white flowers have a slight pinkish tinge.

59074. *RHODODENDRON* sp.

Nos. 10989 (fruit), 9122 (flowers). October, 1923. A low shrub 3 feet high found in the alpine regions of Tsechung at 12,000 feet altitude. The leaves are obovate-acute at the base and chocolate colored tomentose beneath; the flowers are almost black.

59075. *RHODODENDRON* sp.

Nos. 10990 (fruit), 9127 (flowers). October, 1923. A shrub 5 to 8 feet high which grows on the forested slopes of the alpine regions of Tsechung at 11,000 feet altitude. The lanceolate leaves are dull green and glabrous; the flowers are purple-pink.

59076. *RHODODENDRON* sp.

No. 10991. October, 1923. A low-growing plant 2 feet high found on the slopes of the Tsechung Mountains at 10,000 feet altitude. The leaves are small, oval, glabrous, and glaucous, and the flowers are small and yellow.

59077. *RHODODENDRON IXEUTICUM* Balf. f. and Smith.

Nos. 10992 (fruit), 8767 (flowers). October, 1923. A shrub 5 to 6 feet high found in the

59000 to 59268—Continued.

alpine regions of Tsechung. The oblong, acute leaves are brown woolly beneath, and the white flowers grow in large umbels.

59078. *RHODODENDRON REPENS* Balf. f. and Forrest.

No. 10994. October, 1923. A small plant 1 foot high found growing in the rocky alpine slopes of the Tsechung Mountains at 13,000 feet altitude. It has small oval leaves and rich crimson flowers.

59079. *RHODODENDRON SEMNUM* Balf. f. and Forrest.

Nos. 10995 (fruit), 10060 (flowers). October, 1923. A tree 15 to 20 feet high found growing on the slopes of the Tsechung Mountains. The very large leaves, $1\frac{1}{2}$ feet long, are obovate-oblong and silvery gray beneath; the flowers are large and white.

59080. *RHODODENDRON REPENS* Balf. f. and Forrest.

Nos. 10997 (fruit), 9078 (flowers). October, 1923. A prostrate shrub found in the alpine regions of Tsechung. The small oval leaves are green on both sides, and the large flowers are dark red.

59081. *RHODODENDRON* sp.

Nos. 10999 (fruit), 9139 (flowers). October, 1923. A shrub 4 feet high found on the rocky slopes of the Tsechung Mountains at 11,000 feet altitude. The linear-elliptical leaves are brown beneath, and the large flowers are a rich crimson.

59082. *RHODODENDRON SALUENENSE* Franch.

No. 11001. October, 1923. A small shrub 2 feet high found on the rocky alpine slopes of the Tsechung Mountains. The leaves are very small and oval, and the deep purplish blue flowers have carmine calyxes.

59083. *RHODODENDRON* sp.

Nos. 11002 (fruit), 9118 (flowers). October, 1923. A low shrub 2 feet high found in the alpine regions of Tsechung at 13,000 feet altitude. It has elliptical-oval leaves, which are white beneath, and large carmine flowers.

59084. *RHODODENDRON* sp.

Nos. 11003 (fruit), 9278 (flowers). October, 1923. A low shrub 1 to 2 feet high found in the alpine regions of Tsechung. Its small oval leaves are glabrous on both sides, but paler and dull green beneath; the flowers are a rich carmine.

59085. *RHODODENDRON PRAESTANS* Balf. f. and Smith.

Nos. 11013 (fruit), 19095 (flowers). October, 1923. A tree 12 to 15 feet high found on alpine slopes at 13,000 feet altitude. This striking species has large leaves 1 to 2 feet long, subsessile and brownish gray beneath; the large flowers are purplish pink.

59086. *RHODODENDRON* sp.

Nos. 11014 (fruit), 9158 (flowers). October, 1923. A shrub 4 feet high found on the alpine slopes of Tsechung at 13,000 feet altitude. The leaves are small, oval, papery, glabrous, and the flowers pale lavender.

59087. *RHODODENDRON* sp.

Nos. 11015 (fruit), 8777 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found in forests on the slopes of the Tsechung Mountains at 10,000 feet altitude. This handsome species has leaves which are oblong, dull green, and glabrous; its pinkish purple flowers are in large umbels.

59000 to 59268—Continued.

59088. RHODODENDRON FULVIDES Balf. f. and Forrest.

Nos. 11016 (fruit), 8790 (flowers). October, 1923. A small tree 8 to 10 feet high found on the slopes of Tschchung at 10,000 feet altitude. Its obovate-acute, oblong leaves are covered with brown tomentum beneath, and its large flowers are reddish purple.

59089. RHODODENDRON sp.

Nos. 11017 (fruit), 9108 (flowers). October, 1923. A shrub 8 feet high found on the alpine slopes of Tschchung at 12,000 feet altitude. The oblong leaves are dark green above and smooth and brown beneath; the flowers are pink.

59090. RHODODENDRON sp.

Nos. 11018 (fruit), 9209 (flowers). October, 1923. A low-growing shrub 2 feet tall found in the alpine regions of Tschchung at 12,000 feet altitude. This striking species has small oval leaves, which are white beneath, and very rich carmine flowers.

59091. RHODODENDRON FULVIDES Balf. f. and Forrest.

Nos. 11023 (fruit), 8738 (flowers). October, 1923. A shrub 5 to 6 feet high found at the Sila Pass on the Mekong-Salwin Divide at 14,000 feet altitude. The lanceolate leaves are brown tuberculate beneath, and the flowers are a handsome rich pink.

59092. RHODODENDRON sp.

Nos. 11024 (fruit), 9220 (flowers). October, 1923. A small shrub 2 to 3 feet high found at the Sila Pass on the Mekong-Salwin Divide at an altitude of 14,000 feet. The leaves are elliptical-oblong, mucronate, and drab to white beneath; the flowers are medium sized and a deep blackish crimson.

59093. RHODODENDRON sp.

Nos. 11026 (fruit), 9216 (flowers). October, 1923. A small shrub 4 feet high found at the Sila Pass on the Mekong-Salwin Divide at an altitude of 13,000 feet. The oval subcordate leaves are glabrous and pale beneath; the flowers are a pale yellowish pink.

59094. RHODODENDRON sp.

Nos. 11027 (fruit), 9231 (flowers). October, 1923. A shrub 6 feet high found at the Sila Pass on the Mekong-Salwin Divide at between 10,000 and 11,000 feet altitude. The obovate leaves are glabrous and paler beneath, and the flowers are pinkish purple.

59095. RHODODENDRON sp.

Nos. 11028 (fruit), 9203 (flowers). October, 1923. A small shrub 5 feet high found along a stream in the Sila Pass of the Mekong-Salwin Divide at 11,000 feet altitude. The oblong leaves are glabrous and paler beneath, and the large flowers are a rich pink spotted with purple.

59096. RHODODENDRON sp.

Nos. 11029 (fruit), 9214 (flowers). October, 1923. A low shrub 2 feet high found at the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The elongate-elliptical leaves are dark green above and white beneath; the large flowers are a very dark carmine.

59097. RHODODENDRON sp.

Nos. 11030 (fruit), 8743 (flowers). October, 1923. A shrub or small tree 5 or 6 feet high found along the alpine brooks in the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The obovate-glabrous leaves are golden yellow beneath, and the flowers are large and white.

59000 to 59268—Continued.

59098. RHODODENDRON sp.

Nos. 11031 (fruit), 9198 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at between 12,000 and 13,000 feet altitude. The oval to obovate leaves are glabrous and golden yellow beneath; the flowers are a yellowish pink.

59099. RHODODENDRON sp.

Nos. 11032 (fruit), 8748 (flowers). October, 1923. A low shrub 4 to 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The oblong to obovate leaves are golden yellow and glabrous beneath. The flowers are pale pink.

59100. RHODODENDRON FULVIDES Balf. f. and Forrest.

Nos. 11034 (fruit), 9223 (flowers). October, 1923. A shrub or small tree 14 to 15 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The obovate leaves are dark green above and covered with brown tomentum beneath; the small rich-pink flowers are on slender pedicels.

59101. RHODODENDRON sp.

Nos. 11038 (fruit), 9207 (flowers). October, 1923. A shrub 7 to 8 feet tall found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The large obovate leaves are golden yellow beneath, and the very large flowers are a showy yellowish pink.

59102. RHODODENDRON sp.

Nos. 11041 (fruit), 8742 (flowers). October, 1923. A low shrub 3 to 4 feet high found on the Sila Pass on the Mekong-Salwin Divide. The obovate leaves are golden yellow beneath, and the flowers are a rich pink with a purplish tinge.

59103. RHODODENDRON SERPENS Balf. f. and Forrest.

Nos. 11042 (fruit), 9233 (flowers). October, 1923. A low shrub 1 to 2 feet high found on the Sila Pass on the Mekong-Salwin Divide. The obovate rounded leaves are glabrous and grayish green beneath; the flowers are carmine with a purplish tinge.

59104. RHODODENDRON sp.

Nos. 11043 (fruit), 8763 (flowers). October, 1923. A tree 18 feet high found on the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The large oblong leaves are dark green above and deep brown tomentose beneath; the very striking large white flowers are on long pedicels.

59105. RHODODENDRON sp.

Nos. 11045 (fruit), 8746 (flowers). October, 1923. A small tree 8 to 10 feet high found growing on the Sila Pass on the Mekong-Salwin Divide at 11,000 feet altitude. The linear-elongate leaves are dark blackish gray beneath and dark green above, and the large flowers are a beautiful rose pink.

59106. RHODODENDRON sp.

Nos. 11047 (fruit), 9212 (flowers). October, 1923. A low shrub 2 feet high found growing in masses on the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The elliptical leaves are grayish brown on top and chocolate color beneath; the flowers are dark crimson.

59107. RHODODENDRON sp.

Nos. 11050 (fruit), 9237 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found on the Sila Pass on the Mekong-Salwin Divide at about 11,000 feet altitude. The obovate leaves are golden yellow beneath, and the very large flowers are pinkish purple.

59000 to 59268—Continued.

59108. RHODODENDRON sp.

Nos. 11054 (fruit), 8741 (flowers). October, 1923. A small shrub 4 feet high found on the Sila Pass on the Mekong-Salwin Divide. The ovate-oblong leaves are glabrous and pale beneath, and the small flowers are a rich purple.

59109. RHODODENDRON sp.

Nos. 11055 (fruit), 9238 (flowers). October, 1923. A tall shrub 7 to 8 feet high found on the Sila Pass at 12,000 feet altitude. The oblong leaves are golden yellow beneath and glabrous, and the flowers are medium yellow.

59110. RHODODENDRON sp.

Nos. 11056 (fruit), 9205 (flowers). October, 1923. A shrub 6 to 8 feet high found on the Sila Pass at 12,000 feet altitude. The oval leaves are glabrous and pale yellow beneath, and the large flowers are rich yellow.

59111. RHODODENDRON sp.

Nos. 11057 (fruit), 9200 (flowers). October, 1923. A shrub 6 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The oblong leaves are a rich green, pale golden green beneath, and the flowers are pale pink.

59112. RHODODENDRON sp.

Nos. 11059 (fruit), 9204 (flowers). October, 1923. A shrub 6 to 8 feet high found on the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The broad obovate-oblong leaves are glabrous and green on both sides; the flowers are a dark reddish purple.

59113. RHODODENDRON sp.

Nos. 11061 (fruit), 8744 (flowers). October, 1923. A low shrub only 3 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The obovate leaves are yellowish green beneath and glabrous; the flowers are deep purple carmine.

59114. RHODODENDRON sp.

Nos. 11063 (fruit), 9219 (flowers). October, 1923. A shrub 5 to 6 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The leaves are oval, pale green, and glabrous beneath; the large flowers are purple pink.

59115. RHODODENDRON sp.

Nos. 11064 (fruit), 9199 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The leaves are ovate-subcordate, green on both sides, and glabrous; the flowers are pale pink.

59116. RHODODENDRON sp.

Nos. 11065 (fruit), 9240 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass, Mekong-Salwin Divide. The elliptical leaves are glaucous green beneath, and the flowers are pale cream color.

59117. RHODODENDRON sp.

Nos. 11066 (fruit), 9213 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The oval leaves are green on both sides and glabrous; the flowers are orange-pink.

59118. RHODODENDRON sp.

Nos. 11068 (fruit), 8761 (flowers). October, 1923. A small tree 8 feet high found growing on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The large oblong leaves are covered beneath with a fine brown tomentum and the medium-sized flowers are rose-red.

59000 to 59268—Continued.

59119. RHODODENDRON sp.

No. 11069. October, 1923. A small tree 10 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The large obovate leaves are covered with a chocolate-brown tomentum; the flowers are said to be white.

59120. RHODODENDRON sp.

Nos. 11072 (fruit), 10052 (flowers). October, 1923. A very aromatic shrub 7 feet high found in the mountains of Tseku between 10,000 and 12,000 feet altitude. The pink flowers have a purple tinge.

59121. RHODODENDRON sp.

Nos. 11073 (fruit), 8773 (flowers). October, 1923. A low shrub 4 feet high found on the mountains of Tseku and Tsechung, Mekong. The oblong-acute leaves are covered with a dense brown wool on the under side. The flowers are dark crimson.

59122. RHODODENDRON FORRESTII Balf. f.

Nos. 11074 (fruit), 8717 (flowers). October, 1923. A prostrate shrub collected on the alpine slopes of the Tseku Mountains at about 13,000 feet altitude. The small oval dark-green leaves are deep purple beneath, and the flowers are rich crimson.

59123. RHODODENDRON sp.

Nos. 11076 (fruit), 10053 (flowers). October, 1923. A low shrub only 1 foot high found on the alpine slopes of the Tseku Mountains at 13,000 feet altitude. The linear-coriaceous leaves have revolute margins and are covered with a dense rufous wool on the under side; the flowers are cream colored with purple spots.

59124. RHODODENDRON sp.

Nos. 11077 (fruit), 8719 (flowers). October, 1923. A low shrub 3 to 4 feet high found on the slopes of the Tseku Mountains, Mekong, at 10,000 feet altitude. The small oval leaves are green on both sides, but paler beneath, and the flowers are purplish pink.

59125. RHODODENDRON sp.

Nos. 11078 (fruit), 8715 (flowers). October, 1923. A shrub 4 feet high found on the Tseku Mountains at 10,000 feet altitude. The oval green leaves are glabrous on both sides, and the flowers are deep purplish red.

59126. RHODODENDRON sp.

Nos. 11080 (fruit), 8720 (flowers). October, 1923. A shrub 5 to 6 feet high collected in the Tseku Mountains at 12,000 feet altitude. The oblong-ovate leaves are pale green beneath and glabrous; the large flowers are pink red.

59127. RHODODENDRON sp.

Nos. 11081 (fruit), 8923 (flowers). October, 1923. A low shrub 3 feet high found in the alpine regions of the Tseku Mountains, Mekong. The under side of the obovate-oblong leaves is covered with chocolate-colored tomentum; the flowers are deep rich carmine.

59128. RHODODENDRON sp.

Nos. 11082 (fruit), 8725 (flowers). October, 1923. A small shrub 2 feet high found in the alpine regions of the Tseku Mountains at 13,000 feet altitude. The linear-oblong leaves are dark green above and silvery white beneath; the flowers are very dark carmine.

59129. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11083 (fruit), 8921 (flowers). October, 1923. A shrub 5 feet high found in the mountains of Tseku-Lauchitung, Mekong Valley, at 10,000 feet altitude. The obovate leaves are rich brown tomentose beneath, and the flowers are snow white.

59000 to 59268—Continued.

59130. RHODODENDRON sp.

Nos. 11084 (fruit), 8922 (flowers). October, 1923. A low shrub 2½ feet high found in the mountains of Lauchaitung, Mekong Valley, at an altitude of 12,000 feet. The narrow linear leaves have revolute margins and are covered with dense rufous wool beneath.

59131. RHODODENDRON sp.

November, 1923. A shrub 5 to 6 feet high found on the slopes of Alolaka, Salwin Valley, at 11,000 feet altitude. The oblong-acute leaves are dark green above, paler and glabrous beneath; the buds are very dark carmine and the petioles deep red.

59132. RHODODENDRON sp.

Nos. 11085 (fruit), 9263 (flowers). November, 1923. A tall shrub 8 feet high found in the Peima Mountains at 14,000 feet altitude. The oval leaves, acute at both ends, are covered with brown flaky tomentum, and the pink flowers are spotted with purple.

59133. RHODODENDRON sp.

Nos. 11089 (fruit), 8869 (flowers). November, 1923. A low-growing shrub 2 to 3 feet high found in the high alpine meadows of the Peima Mountains, Mekong-Yangtze Divide, at 15,600 feet altitude. The small oval leaves are brown tomentose beneath; the small flowers are white.

59134. RHODODENDRON sp.

Nos. 11092 (fruit), 8847 (flowers). November, 1923. A low shrub 1 to 2 feet high found in the high alpine regions of the Peima Mountains at from 15,000 to 16,000 feet altitude. The very small leaves are grayish above and brown beneath; the small flowers are blue.

59135. RHODODENDRON sp.

Nos. 11106 (fruit), 8855 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 14,000 feet altitude. The leaves are linear lanceolate and covered with a brown tomentum beneath; the cream-colored flowers are spotted with purple.

59136. RHODODENDRON sp.

Nos. 11109 (fruit), 8849 (flowers). November, 1923. A low shrub 2 to 3 feet high found at 14,000 feet altitude in the Peima Mountains. The very small leaves are elliptical and brown beneath, and the small flowers are deep blue.

59137. RHODODENDRON sp.

Nos. 11110 (fruit), 8867 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 13,000 feet altitude. The leaves are linear lanceolate, acute, and glabrous; the flowers are white and the bracts large.

59138. RHODODENDRON sp.

Nos. 11111 (fruit), 8846 (flowers). November, 1923. A low-growing shrub 4 feet high collected in the Peima Mountains at 13,000 feet altitude. The ovate-oblong leaves are glabrous and green on both sides; the flowers are pale pinkish purple.

59139. RHODODENDRON sp.

Nos. 11112 (fruit), 9946 (flowers). November, 1923. A tall shrub, 6 to 8 feet, found growing in the Peima Mountains at 14,000 feet altitude. The lanceolate leaves are glabrous and the flowers pink, spotted with purple.

59140. RHODODENDRON sp.

Nos. 11116 (fruit), 9272 (flowers). November, 1923. A tall shrub 10 feet high found in the Peima Mountains at 14,000 feet altitude. The oblong leaves are deeply copper colored beneath, and the flowers are white.

59000 to 59268—Continued.

59141. RHODODENDRON sp.

Nos. 11119 (fruit), 8851 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 14,000 feet altitude. The leaves are oval acute at both ends and brown or yellowish tomentose beneath; the flowers are white with small purple spots.

59142. RHODODENDRON sp.

Nos. 11120 (fruit), 8860 (flowers). November, 1923. A small tree 6 to 8 feet high found on the Peima Mountains at 14,000 feet altitude. The oblong-acute leaves are covered with brown tomentum beneath, and the flowers are pale pink with deep-purple spots.

59143. RHODODENDRON sp.

Nos. 11121 (fruit), 8857 (flowers). November, 1923. A shrub 5 to 6 feet high collected at 14,000 feet altitude in the Peima Mountains. The leaves are ovate-oblong, brown to carmine tomentose beneath; the flowers are white and reddish purple.

59144. RHODODENDRON sp.

Nos. 11122 (fruit), 10358 (flowers). November, 1923. A shrub 7 to 8 feet high found at 14,000 feet altitude in the Peima Mountains. The oblong-acute leaves are deep brown tomentose beneath, and the flowers are pink.

59145. RHODODENDRON sp.

Nos. 11123 (fruit), 8926 (flowers). November, 1923. A shrub 5 feet high found at 14,000 feet altitude in the Peima Mountains. The linear-lanceolate leaves are covered on the under side with rust-brown flaky tomentum. The flowers are pink spotted with purple.

59146. RHODODENDRON sp.

Nos. 11124 (fruit), 9955 (flowers). November, 1923. A shrub 4 to 5 feet high collected at 14,000 feet altitude on the Peima Mountains. The oblong-acute leaves are dark-brown tomentose beneath, and the flowers are purple.

59147. RHODODENDRON sp.

Nos. 11125 (fruit), 9264 (flowers). November, 1923. A tall shrub 6 to 8 feet high collected at 14,000 feet altitude on the Peima Mountains. The oblong leaves are covered with pale-brown matted tomentum, and the white flowers are spotted with purple.

59148. RHODODENDRON sp.

Nos. 11126 (fruit), 9958 (flowers). November, 1923. A plant 5 inches high found on the high alpine meadows of the Peima Mountains at 15,000 feet altitude. The minute leaves are elliptical to ovoid and glabrous on both sides; the flowers are yellow.

59149. RHODODENDRON sp.

Nos. 11127 (fruit), 8848 (flowers). November, 1923. A low shrub 3 to 4 feet high found at 14,000 feet altitude on the Peima Mountains. The ovate-oblong leaves are glabrous, and the flowers are pinkish purple.

59150. RHODODENDRON sp.

Nos. 11128 (fruit), 9250 (flowers). November, 1923. A shrub 5 feet high found at 13,000 feet altitude in the Peima Mountains. The leaves are oval acute, subcordate base, and glabrous; the flowers are a rich lavender.

59151. RHODODENDRON sp.

There is no definite data available regarding these seeds, as they were received under a number belonging to a primrose.

59000 to 59268—Continued.

59152. RHODODENDRON sp.

Nos. 11130 (fruit), 9952 (flowers). November, 1923. A tiny shrub only 1 foot high found in the alpine meadows of the Peima Mountains at 15,000 feet altitude. The small oval leaves are brown and silky beneath, and the flowers are bluish purple.

59153. RHODODENDRON sp.

Nos. 11132 (fruit), 8866 (flowers). November, 1923. A small shrub 4 to 5 feet high found in the Peima Mountains at 13,000 feet altitude. The ovoid leaves are glabrous and paler beneath; the medium-sized flowers are lavender blue.

59154. RHODODENDRON sp.

Nos. 11133 (fruit), 9960 (flowers). November, 1923. A shrub 6 feet high found on the alpine slopes of the Peima Mountains at 14,000 feet altitude. The leaves are oblong, dark green with pale whitish yellow matted tomentum; the very large, rich purple flowers are spotted with dark purple.

59155. RHODODENDRON sp.

Nos. 11134 (fruit), 9947 (flowers). November, 1923. A shrub 5 feet high found at 14,000 feet altitude in the Peima Mountains. The ovate-acute leaves are dark green with revolute margins and are densely matted beneath with brown tomentum; the flowers are white.

59156. RHODODENDRON sp.

Nos. 11137 (fruit), 8947 (flowers). November, 1923. A low shrub 2 to 3 feet high found at 12,000 feet altitude in the alpine meadows of Litiping, Mekong-Yangtze Divide. The oval leaves are glabrous, and the bright-yellow flowers are in large umbels.

59157. RHODODENDRON sp.

Nos. 11139 (fruit), 9161 (flowers). November, 1923. A tree 12 to 15 feet high found at 12,000 feet altitude in the alpine forests of Litiping. The oblong glabrous leaves are green, and the deep-purple flowers are spotted with darker purple.

59158. RHODODENDRON sp.

Nos. 11140 (fruit), 9167 (flowers). November, 1923. A tall shrub 10 to 12 feet high found in the alpine forests of Litiping at 11,000 feet altitude. The oblong glabrous leaves are green, and the purple flowers are not spotted.

59159. RHODODENDRON sp.

Nos. 11141 (fruit), 9068 (flowers). November, 1923. A small shrub 4 to 5 feet high collected at 11,000 feet altitude on the slopes of the Yetche Mountains. The leaves are small, oval, green, and glabrous, and the flowers are lavender.

59160. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11142 (fruit), 9075 (flowers). November, 1923. A shrub 6 feet high found in the Yetche Mountains, Mekong Valley, at 10,000 feet altitude. The leaves are oblong, lanceolate, acute with brown tomentum beneath; the flowers are pink.

59161. RHODODENDRON sp.

Nos. 11143 (fruit), 8950 (flowers). November, 1923. A small shrub 3 feet high found at 12,000 feet altitude in the mountains of Anwa-Yetche. The leaves are oval, acute with pale-yellow matted wool; the flowers are pinkish red.

59162. RHODODENDRON sp.

Nos. 11144 (fruit), 8941 (flowers). November, 1923. A small shrub 3 feet high found at 14,000 feet altitude in the alpine regions of Anwa.

59000 to 59268—Continued.

The leaves are linear lanceolate, coriaceous, densely rufous woolly beneath; the handsome flowers are pure white.

59163. RHODODENDRON sp.

Nos. 11146 (fruit), 8957 (flowers). November, 1923. A shrub 4 feet high found in the alpine regions of Anwa, Mekong Valley. The leaves are linear-oblong, deeply rufous beneath; the large flowers are white.

59164. RHODODENDRON sp.

Nos. 11147 (fruit), 8930 (flowers). November, 1923. A shrub 4 feet high found in the alpine regions of Anwa at 13,000 feet altitude. The broadly obovate leaves are suborbicular, green, and glabrous; the large flowers are bright yellow.

59165. RHODODENDRON sp.

Nos. 11148 (fruit), 9391 (flowers). November, 1923. A little plant 1 foot high found on the alpine slopes of the Mofing Mountains, north-east of Atuntze, at 14,000 feet altitude. The leaves are very small, oval, brown, and tuberculate beneath; the small flowers are yellow.

59166. RHODODENDRON sp.

Nos. 11154 (fruit), 10219 (flowers). A rare shrub only 1 foot high found in the Champutong Mountains, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are obovate elliptical with brownish black matted wool beneath; the flowers are yellowish red.

59167. RHODODENDRON sp.

Nos. 11157 (fruit), 10107 (flowers). October, 1923. A low shrub 1 to 3 feet high found at 13,000 feet altitude on the Champutong Mountains, Salwin-Irrawaddy Divide. The spatulate leaves are dark green and purplish black tomentose beneath; the rare flowers are yellowish red.

59168. RHODODENDRON sp.

Nos. 11158 (fruit), 10218 (flowers). October, 1923. A low shrub 1 to 2 feet high found at 13,000 feet altitude on the Champutong Mountains, Salwin-Irrawaddy Divide. The leaves are elliptical with drab tomentum beneath; the flowers are reddish purple.

59169. RHODODENDRON sp.

Nos. 11161 (fruit), 10109 (flowers). October, 1923. A small shrub 1 to 2 feet high found in the Champutong Mountains, Salwin-Irrawaddy Divide, at 14,000 feet altitude. The branches are stiff and erect, the elliptical leaves brownish beneath, and the flowers are yellow.

59170. RHODODENDRON sp.

Nos. 11163 (fruit), 10150 (flowers). October, 1923. A tree 8 to 10 feet high found at Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are obovate-oblong mucronate and densely matted with red-brown tomentum; the flowers are red.

59171. RHODODENDRON sp.

Nos. 11164 (fruit), 10162 (flowers). November, 1923. A small shrub 4 feet high found at 13,000 feet altitude on Mount Kenichunpu on the Salwin-Irrawaddy Divide. The leaves are obovate elliptical and covered with dark brownish black tomentum beneath; the flowers are pink.

59172. RHODODENDRON sp.

Nos. 11165 (fruit), 10120 (flowers). November, 1923. A tree 18 to 20 feet high found on Mount Kenichunpu on the Salwin-Irrawaddy Divide at 13,000 feet altitude. The very large leaves are obovate oblong, deep rich brown, and evenly tomentose beneath; the flowers are a rich yellow.

59000 to 59268—Continued.

59173. RHODODENDRON sp.

Nos. 11167 (fruit), 10223 (flowers). October, 1923. A small shrub 4 feet high found growing on Mount Kenichunpu, Champutong, at 12,000 feet altitude. The elliptic leaves are brownish glaucous and glabrous beneath; and the yellow flowers are on long pedicels.

59174. RHODODENDRON sp.

No. 11169. October, 1923. A very low shrub 1 to 2 feet high found growing in Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The obovate, spatulate leaves are glabrous, dark rich green above, and paler beneath. The flowers were not seen.

59175. RHODODENDRON sp.

Nos. 11175 (fruit), 10129 (flowers). October, 1923. A shrub 5 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The oval-obovate leaves are rich green above and chocolate colored beneath; the flowers are a rich red.

59176. RHODODENDRON sp.

Nos. 11176 (fruit), 10105 (flowers). October, 1923. A small shrub 1 to 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are small, elliptical, acute at both ends, and yellowish white tomentose beneath; the flowers are deep crimson.

59177. RHODODENDRON sp.

Nos. 11177 (fruit), 10098 (flowers). October, 1923. A shrub 2 to 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are elliptical, acute, and covered with white tomentum beneath; the flowers are very dark crimson.

59178. RHODODENDRON sp.

Nos. 11179 (fruit), 10145 (flowers). October, 1923. A tall shrub 7 to 8 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The oblong-acute leaves are long tapering at the base and densely squamately tomentose beneath; the flowers are red.

59179. RHODODENDRON sp.

Nos. 11180 (fruit), 10172 (flowers). October, 1923. A shrub 5 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The obovate-elliptical leaves are glabrous and golden yellowish green beneath; the flowers are red.

59180. RHODODENDRON sp.

Nos. 11181 (fruit), 10140 (flowers). October, 1923. A low shrub 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The elliptical leaves are brownish tomentose beneath, and the flowers are red.

59181. RHODODENDRON sp.

Nos. 11182 (fruit), 10133 (flowers). October, 1923. A shrub 6 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The obovate-oblong leaves are covered with squamose brown tomentum beneath, and the flowers are red.

59182. RHODODENDRON RADICANS Balf. f. and Forrest.

Nos. 11188 (fruit), 10122 (flowers). October, 1923. A prostrate plant only a few inches tall found between 14,000 and 15,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The very small leaves are elliptical and covered with pale-brown tomentum beneath, and the large bright-red flowers are on long pedicels.

59000 to 59268—Continued.

59183. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11189 (fruit), 10125 (flowers). October, 1923. A tree 10 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The linear-lanceolate leaves are a rich green above and dark brown woolly beneath; the flowers are pink.

59184. RHODODENDRON sp.

Nos. 11190 (fruit), 10195 (flowers). October, 1923. A shrub 6 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are oval, acute, subcordate, and have thin brownish tomentum beneath; the flowers are pink.

59185. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11192 (fruit), 10198 (flowers). A shrub or small tree 10 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The linear-oblong leaves are dull green above with the veins deeply impressed and reddish brown tomentose beneath; the flowers are pink.

59186. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11193 (fruit), 10117 (flowers). October, 1923. A shrub or tree 7 to 10 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The leaves are linear lanceolate, acuminate, and dark rufous woolly beneath; the flowers are pink.

59187. RHODODENDRON sp.

Nos. 11195 (fruit), 10113 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found at from 12,000 to 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oblong-acute leaves are greenish flaky and tomentose beneath; the flowers are pink.

59188. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11196 (fruit), 10196 (flowers). October, 1923. A tree 8 to 10 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The oblong-acuminate leaves are covered with yellowish tomentum beneath, and both petioles and pedicels are hirsute; the flowers are pink.

59189. RHODODENDRON sp.

Nos. 11198 (fruit), 10126 (flowers). October, 1923. A very small shrub only 2 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The very small ovate leaves are tuberculate beneath, and the flowers are yellow.

59190. RHODODENDRON sp.

Nos. 11201 (fruit), 10199 (flowers). October, 1923. A shrub 6 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The large leaves are obovate-oblong with dense brown matted wool beneath; the flowers are scarlet.

59191. RHODODENDRON sp.

Nos. 11202 (fruit), 10149 (flowers). October, 1923. A shrub 7 to 8 feet high found at 12,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The linear-elliptical leaves are white and glaucous, glabrous beneath; the red flowers are on long pedicels.

59192. RHODODENDRON sp.

Nos. 11205 (fruit), 10170 (flowers). October, 1923. A small shrub 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oval-elliptical leaves are pale yellow and glabrous beneath; the flowers are red.

59000 to 59268—Continued.

59193. RHODODENDRON sp.

No. 11211. October, 1923. A tree 15 to 18 feet tall found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The large oblong leaves are densely matted brown tomentose beneath; flowers not seen.

59194. RHODODENDRON AMAUROPHYLLUM Balf. f. and Forrest.

No. 11238. October, 1923. A small shrub 1½ to 2 feet high found on the rocky slopes of Mount Kenichunpu at 13,000 feet altitude on the Salwin-Irrawaddy Divide. The small oval leaves are brown tomentose beneath, and the flowers are red.

59195. RHODODENDRON sp.

No. 11252. October, 1923. A shrub 8 feet high found at from 12,000 to 13,000 feet altitude on Mount Lautchun. The narrow elliptical leaves are deeply rufous woolly beneath, and the flowers are pink.

59196. RHODODENDRON sp.

No. 11260. October, 1923. A low shrub 2 feet high found at 10,000 feet altitude on the slopes of Mount Lautchun. The small linear leaves are revolute and pale brown beneath; the flowers are pale pink.

59197. RHODODENDRON sp.

Nos. 11269 (fruit), 8395 (flowers). October, 1923. A shrub 5 feet high collected on Mount Lautchun at 8,500 feet altitude. The oblong leaves are dark green, glabrous, paler underneath, and the deep purplish red flowers are on slender pedicels.

59198. RHODODENDRON sp.

Nos. 11270 (fruit), 8393 (flowers). October, 1923. A very tall shrub 12 feet high found at 8,500 feet altitude on Mount Lautchun. The leaves are oblong-oval and glabrous on hirsute petioles, and the flowers are a rich pink.

59199. RHODODENDRON sp.

Nos. 11271 (fruit), 8419 (flowers). October, 1923. A shrub 6 to 10 feet high found at 8,500 feet altitude on Mount Lautchun. The small oval leaves are deep brown beneath, and the large flowers shade from lavender to deep purple.

59200. RHODODENDRON sp.

No. 11272. October, 1923. A shrub or small tree 15 to 18 feet tall found on the slopes of Mount Shenzi. The large dark-green leaves are glabrous on both sides, and the large flowers are red.

59201. RHODODENDRON sp.

Nos. 11275 (fruit), 9607 (flowers). October, 1923. A shrub 6 feet high found on Mount Shenzi at 10,000 feet altitude. The large oblong, acute leaves are dark green and glabrous on both sides; the flowers are red.

59202. RHODODENDRON sp.

Nos. 11278 (fruit), 9503 (flowers). A low shrub 2 to 3 feet high found among rocks on Mount Shenzi at 13,000 feet altitude. The thick coriaceous leaves are densely covered with a rough brown cottony tomentum on the under side; flowers pink.

59203. RHODODENDRON sp.

Nos. 11280 (fruit), 8429 (flowers). October, 1923. A tree 12 to 15 feet high found at Labako at about 9,000 feet altitude. The oval-acute leaves are glabrous green on both sides, and the white flowers have a pinkish tinge.

59000 to 59268—Continued.

59204. RHODODENDRON sp.

No. 11283. October, 1923. A shrub 5 feet high found in forests at Labako at 10,000 feet altitude. The acute-elliptical leaves are rich green and glabrous on both sides; the flowers are pink.

59205. RHODODENDRON sp.

No. 11285. October, 1923. A small tree 10 feet high found on the alpine plains of Labako at 12,000 feet altitude. The linear leaves are almost needle shaped with long revolute margins; they are dark green above and rufous brown woolly beneath. The white flowers are in dense umbels.

59206. RHODODENDRON sp.

No. 11287. October, 1923. A shrub only 2 feet high found among rocks on the mountains of Labako at 12,000 feet altitude. The small oval leaves are brown and dotted beneath, and the flowers are red.

59207. RHODODENDRON sp.

No. 11288. October, 1923. A low shrub 3 feet high found in forests in the Labako Mountains at about 1,000 feet altitude. The roundish, oval leaves are glaucous-green beneath; the flowers are white.

59208. RHODODENDRON sp.

Nos. 11290 (fruit), 9533 (flowers). October, 1923. A shrub 6 feet high found in a fir forest on the Labako Mountains at 11,000 feet altitude. The ovate-oblong acute leaves are green and glabrous on both sides with hairy stems. The flowers are red.

59209. RHODODENDRON sp.

No. 11294. October, 1923. A low shrub 2 feet high found among rocks on the alpine regions of the Labako Mountains at 13,000 feet altitude. The small oval leaves are pale golden brown beneath and spotted; the flowers are a purple blue.

59210. RHODODENDRON sp.

Nos. 11295 (fruit), 9527 (flowers). October, 1923. A small shrub 2 feet high found on rocky slopes of the alpine regions in the Labako Mountains at 13,000 feet altitude. Leaves oval, densely brown dotted beneath; the flowers are deep indigo with a purplish tinge.

59211. RHODODENDRON sp.

Nos. 11296 (fruit), 9554 (flowers). October, 1923. A shrub 3 feet high found growing at about 13,800 feet altitude in the alpine meadows of the Labako Mountains. The leaves are small, oval, and densely dotted with brown beneath. The flowers are deep purplish blue.

59212. RHODODENDRON sp.

Nos. 11297 (fruit), 8444 (flowers). October, 1923. A handsome species 3 feet high found among rocks on the Labako Mountains at 11,000 feet altitude. The leaves are elliptical, acute at both ends, with revolute undulate margins and pale green beneath; the flowers are large and white.

59213. RHODODENDRON sp.

No. 11301. October, 1923. A shrub 5 feet high found on the summit of Mount Kintze, at 13,000 feet altitude. The margins of the needle-shaped leaves are so strongly revolute that they meet below; the flowers are white.

59000 to 59268—Continued.

59214. RHODODENDRON SP.

Nos. 11303 (fruit), 9494 (flowers). October, 1923. A very small shrub 1 foot high found in rocky regions of Mount Kintze, at about 13,000 feet altitude. The minute elliptical leaves are brown tomentose beneath, and the small flowers are pale blue.

59215. RHODODENDRON SP.

Nos. 11304 (fruit), 9492 (flowers). October, 1923. A very small plant 6 to 8 inches high found in the rocky alpine regions of Mount Kintze, at about 13,000 feet altitude. The minute elliptical leaves are brown beneath, and the flowers vary from purplish pink to red.

59216. RHODODENDRON SP.

Nos. 11305 (fruit), 9482 (flowers). October, 1923. A plant a few inches high found on the alpine slopes of Mount Kintze, at about 13,000 feet altitude. The small oval, acute leaves are glabrous beneath, and the crimson flowers are on long erect peduncles.

59217. RHODODENDRON SP.

Nos. 11306 (fruit), 9490 (flowers). October, 1923. A scaly prostrate shrub growing on the summit of Mount Kintze, at 13,000 feet altitude. The spatulate leaves are densely covered with cottony brown tomentum, and the flowers are white.

59218. RHODODENDRON SP.

No. 11307. October, 1923. A shrub 8 feet high found near the summit of Mount Kintze, at 13,000 feet altitude. The elliptical leaves are densely woolly beneath, and the flowers are white.

59219. RHODODENDRON SP.

No. 11308. October, 1923. A shrub 5 feet high found at 12,000 feet altitude on Mount Kintze. The leaves are elliptical, oblong, glabrous, and the flowers are yellow.

59220. RHODODENDRON SP.

Nos. 11310 (fruit), 8455 (flowers). October, 1923. A small plant 1 foot high found on the mountains in Luruako Labako, at 12,000 feet altitude. The oblong-acute leaves are elliptical and pale green on both sides; the flowers are pale pink.

59221. RHODODENDRON SP.

Nos. 11311 (fruit), 8461 (flowers). October, 1923. A shrub 5 to 6 feet high found on the mountains of Luruako at 12,000 feet altitude. The linear needle-shaped leaves have revolute margins and are densely rufous beneath; the white flowers grow in dense umbels.

59222. RHODODENDRON SP.

Nos. 11312 (fruit), 8465 (flowers). October, 1923. A low shrub 3 to 4 feet high found on the rocky slopes of the mountains of Luruako, at 12,000 feet altitude. The long linear-lanceolate leaves are a glossy dark green above and red rufous woolly beneath; the flowers are white.

59223. RHODODENDRON SP.

Nos. 11313 (fruit), 8462 (flowers). October, 1923. A small shrub 4 feet high found in the high mountains of Luruako at 12,000 feet altitude. The leaves are oval, acute, subcordate, and pale yellow to brown tomentose beneath. The flowers are pink.

59224. RHODODENDRON SP.

Nos. 11314 (fruit), 8464 (flowers). October, 1923. A shrub 4 to 5 feet high found in the high

59000 to 59268—Continued.

mountains of Luruako, at 13,000 feet altitude. The oblong-acute leaves are dark green and reticulate above and from pale yellow to brown tomentose beneath. The flowers are pink.

59225. RHODODENDRON SP.

No. 11315. October, 1923. A plant 2 feet high found in swampy situations or on slopes along streams on the mountains of Luruako at 10,000 feet altitude. The small, linear-elliptical leaves are pale brown dotted beneath, and the flowers are blue.

59226. RHODODENDRON SP.

Nos. 11316 (fruit), 9168 (flowers). October, 1923. A shrub 5 feet high found at the foot of the mountains of Litiping. It is a beautiful species with pale-green elliptical leaves and very fragrant large yellow flowers.

59227. RHODODENDRON SP.

Nos. 11321 (fruit), 9070 (flowers). October, 1923. A shrub 7 to 8 feet high found in alpine meadows on the slopes of the Litiping Mountains at 12,000 feet altitude. The oval-acute leaves are subcordate at the base and pale green glabrous beneath; the yellow flowers have a pinkish tinge.

59228. RHODODENDRON SP.

No. 11322. October, 1923. A shrub 6 to 8 feet high found in the mountains of Yetche at 12,000 feet altitude. The leaves are oblong, acute at both ends, and covered with soft brown tomentum beneath. Flowers unknown.

59229. RHODODENDRON SP.

No. 11325. November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 14,000 feet altitude. The broadly oval leaves are coriaceous with deciduous tomentum.

59230. RHODODENDRON SP.

No. 11335. November, 1923. A shrub 6 feet high found on the Moting Mountains at about 14,000 feet altitude. The leaves are oval, oblong, acute, subcordate, and brown tomentose beneath. Flowers not seen.

59231. RHODODENDRON SP.

No. 11341. November, 1923. A shrub 5 to 6 feet high found on the high alpine slopes of the Peima Mountains between 14,000 and 15,000 feet altitude. The acute, obovate-oblong leaves are covered beneath with a faintly appressed brown silky tomentum. Flowers not seen.

59232. RHODODENDRON SP.

No. 11342. November, 1923. A shrub from 5 to 8 feet high, found on the alpine slopes of the Moting Mountains between 14,000 and 15,000 feet altitude. The oblong-acute leaves are covered with rufous-brown tomentum beneath.

59233. RHODODENDRON SP.

No. 11344. November, 1923. A shrub 6 to 8 feet high found on the alpine slopes of the Moting Mountains at from 14,000 to 15,000 feet altitude. The leaves are elliptical, oblong, acute, and rich brown tomentose beneath.

59234. RHODODENDRON SINO-GRANDE Balf. f. and Smith.

No. 11348. A tree from 20 to 25 feet high, with spreading branches, found below Shund-sungla, Mekong-Salwin Divide, at 11,500 feet altitude. The very large oblong leaves are broadest at the tip and are 2 feet long, dark green above, and silvery beneath. The large flowers are cream colored.

59000 to 59268—Continued.

59235. *RHODODENDRON FULVIDES* Balf. f. and Forrest.

Nos. 11351. November, 1923. A tree 18 to 20 feet high with branches more or less slender, found at 11,500 feet altitude below Shundsungla, Mekong-Salwin Divide. The leaves are obovate-oblong, acute, and brown tomentose beneath.

59236. *RHODODENDRON* sp.

Nos. 11354. November, 1923. A tree 18 feet high found in a mixed forest on the slopes of the Dokerla Mountains at 11,000 feet altitude. The leaves are linear-oblong, acute at both ends, evenly green, and glabrous on both sides; the flowers are red and the fruits numerous.

59237. *RHODODENDRON* sp.

Nos. 11355. November, 1923. A shrub 4 to 5 feet high found on the outskirts of the pine forest on the eastern slopes of the Karila-Yangtze Divide at 12,000 feet altitude. The broadly ovate-oblong leaves are glaucous, glabrous beneath, and the flowers are said to be yellow.

59238. *RHODODENDRON* sp.

November, 1923. A large shrub 10 to 12 feet high found along the streams in forests on the Dokerla Mountains at 12,000 feet altitude. The dark-green oblong leaves are glabrous on both sides.

59239. *RHODODENDRON* sp.

Nos. 11358. December, 1923. A tree 12 to 15 feet high found along the streams in the forests of Pongela at 11,000 feet altitude. The linear-lanceolate leaves are dull green above, paler and glabrous beneath; the flowers are said to be purplish red.

59240. *RHODODENDRON* sp.

Nos. 11362. November, 1923. A low shrub 1 to 2 feet high found in swampy places near Haraku, Likiang Snow Range, at about 11,000 feet altitude. The small linear leaves are pale brown beneath, and the flowers are said to be whitish pink.

59241. *RHODODENDRON* sp.

Nos. 11364 (fruit), 8494 (flowers). November, 1923. A shrub 3 to 4 feet high found at 12,000 feet altitude on the Likiang Snow Range. The elliptical leaves are glabrous green on both sides, and the flowers are pale blue.

59242. *RHODODENDRON* sp.

Nos. 11366 (fruit), 8214 (flowers). November, 1923. A tree 12 feet high found between 10,000 and 11,000 feet altitude on the western slopes of the Likiang Snow Range. The linear-oblong leaves are glabrous and pale green beneath; the flowers are purple.

59243. *RHODODENDRON* sp.

Nos. 11368 (fruit), 8562 (flowers). November, 1923. A shrub 6 to 8 feet high found at 11,000 feet altitude on the Likiang Snow Range. The small, oval, acute leaves are pale yellow beneath, and the flowers are lavender.

59244. *RHODODENDRON* sp.

Nos. 11369 (fruit), 8212 (flowers). November, 1923. A shrub or small tree 8 feet high found on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The linear-oblong leaves are pale green and glabrous beneath; the flowers are purplish red and spotted with darker red.

59245. *RHODODENDRON NIPHARGUM* Balf. f. and Ward.

Nos. 11370 (fruit), 8218 (flowers). November, 1923. A tree 25 feet high found on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The obovate-oblong leaves are covered with ash-gray tomentum beneath, and the pale-pink flowers are on long pedicels in large umbels.

59000 to 59268—Continued.

59246. *RHODODENDRON NIPHARGUM* Balf. f. and Ward.

Nos. 11374 (fruit), 8216 (flowers). November, 1923. A tree 25 to 30 feet high with a trunk 1 foot in diameter found in forests on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The large leaves are silvery white beneath; the flowers, rose pink (not spotted), grow in large umbels.

59247. *RHODODENDRON* sp.

Nos. 11375 (fruit), 8215 (flowers). November, 1923. A tree 12 to 18 feet high found at Zinako on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The leaves are linear-oblong, glabrous, and dull green; the large flowers are a delicate pink with a few purple spots.

59248. *RHODODENDRON* sp.

Nos. 11376 (fruit), 8217 (flowers). Zinako. November, 1923. A tree 15 to 18 feet high found at 10,000 feet altitude on the western slopes of the Likiang Snow Range. The oval-oblong, acute leaves are pale yellowish gray beneath, and the large flowers are uniformly pinkish purple and not spotted.

59249. *RHODODENDRON* sp.

Nos. 11377 (fruit), 8210 (flowers). November, 1923. A shrub 12 to 18 feet high found at 10,000 feet altitude in the forests above Ashi on the western slopes of the Likiang Snow Range. The oblong, bluntly acute leaves are pale green beneath, and the large dark-purple flowers are not spotted.

59250. *RHODODENDRON* sp.

Nos. 11378 (fruit), 8272 (flowers). November 1923. A small tree 15 feet high found at 11,000 feet altitude in the mountains of Sungkwe south of Likiang. The large oblong leaves are densely rufous brown beneath, and the flowers are white.

59251. *RHODODENDRON* sp.

Nos. 11380 (fruit), 8262 (flowers). November, 1923. A shrub 7 to 8 feet high found at 10,000 feet altitude in the Sungkwe Mountains south of Likiang. The elliptical-oblong leaves are pale green and paler beneath; the flowers are deep reddish purple.

59252. *RHODODENDRON* sp.

Nos. 11390. November, 1923. A shrub 6 to 8 feet high found in the fir forests of Litiping on the Mekong-Yangtze Divide. The linear-oblong, narrow leaves are dark green, paler beneath, and the flowers are purple.

59253. *RHODODENDRON* sp.

Nos. 11392 (fruit), 8362 (flowers). October, 1923. A small shrub 3 to 4 feet high found growing on dry rocky limestone slopes at the edge of pine forests beyond Heshwe, east of the Likiang Snow Range, at 11,000 feet altitude. The obovate-acute leaves are a pale golden brown beneath, and the flowers are a rich bluish lavender.

59254. *RHODODENDRON* sp.

Nos. 11393 (fruit), 8331 (flowers). October, 1923. A shrub 4 feet high found among limestone boulders in a larch forest on the road to Baynva, east of the Likiang Snow Range, at 11,000 feet altitude. The elliptical-oval leaves are silky brown beneath, and the flowers are deep lavender.

59255. *RHODODENDRON* sp.

Nos. 11395. November, 1923. A small tree 25 feet high found in a fir forest on the western slopes of the Likiang Snow Range at 12,000 feet altitude. The large oblong leaves are dark green and densely rufous brown woolly beneath; the flowers are pink.

59000 to 59268—Continued.

59256. RHODODENDRON sp.

No. 11396. November, 1923. A shrub 8 feet high found at about 13,000 feet altitude on the western slope of the Likiang Snow Range. The oblong, acute leaves are yellowish brown tomentose beneath, and the flowers are white.

59257. RHODODENDRON sp.

No. 11401. November, 1923. A low shrub 2 feet high found among rocks at Haraku on the eastern slopes of the Likiang Snow Range. The small, narrow, linear leaves are brownish beneath, and the fragrant flowers are white.

59258. RHODODENDRON RACEMOSUM Franch.

No. 11415. November, 1923. A low shrub 2 feet high found in a drier region on the rocky slopes of the Likiang Snow Range at from 9,500 to 11,000 feet altitude. The leaves are small, oval, and white beneath; the flowers are pale pink.

59259. RHODODENDRON sp.

No. 11434. November, 1923. A shrub 2 feet high found among rocks on the alpine slopes of the Likiang Snow Range between 14,000 and 15,000 feet altitude. The small elliptical-spatulate leaves are bronze colored, and the flowers are deep red.

59260. RHODODENDRON sp.

No. 11459. November, 1923. A shrub 6 feet high found on the alpine slopes of the Likiang Snow Range at 14,000 feet altitude. The oblong, acute leaves are pale yellow beneath, and the large flowers are pure white.

59261. RHODODENDRON sp.

No. 11463. Nadchua. November, 1923. A tree 15 to 18 feet high found among rocks at 14,000 feet altitude on the Likiang Snow Range. The leaves are large, oblong, acute, silky, faintly brown tomentose beneath; the very large flowers are pink.

59262. RHODODENDRON sp.

No. 11465. Nadchua. November, 1923. A plant 1 foot high found on the rocky slopes of the Likiang Snow Range at 14,500 feet altitude. The very small leaves are elliptical, oval, and brown beneath; the flowers are indigo blue.

59263. RHODODENDRON sp.

No. 11460. November, 1923. A plant a foot high found in alpine meadows on the Likiang Snow Range at 15,000 feet altitude. The very small oval leaves are brown beneath, and the small flowers are deep purplish blue.

59264. ROSA OMEIENSIS Rolfe. Rosaceæ. Rose.

No. 11361. December, 1923. A shrub 12 to 15 feet high found on the Kari Pass, Yangtze Divide, at 13,000 feet altitude. The bush branches from the base, and the young branches, broadly winged, are carmine. The flowers are white over red.

For previous introduction, see S. P. I. No. 53737.

59265. SAUSSUREA GOSSIPHORA D. Don. Asteraceæ.

No. 11472. November, 1923. A curious plant 1½ feet high found among limestone rocks, at 15,500 feet altitude on the Likiang Snow Range. The basal leaves are linear lanceolate and the head oblong and densely cottony; the flower heads are buried in cottony scales.

59266. SORBUS sp. Malaceæ.

No. 11070. October, 1923. A tree 10 feet high found on the mountains of Tseheung, at 10,000 feet altitude. The small pinnate leaves are pale beneath, and the flowers are a deep red. The fruits are also red.

59000 to 59268—Continued.

59267. SWERTIA sp. Gentianaceæ.

No. 11447. November, 1923. A plant 1 foot high found in alpine meadows, at 13,000 feet altitude on the Likiang Snow Range. The leaves are stem clasping, and the large handsome flowers are rich lavender blue.

59268. VACCINIUM sp. Vacciniaceæ.

No. 11490. November, 1923. A shrub 3 feet high found on the rocky slopes of the Lautchun Mountains, at 10,000 feet altitude. The small leaves are obovate, spatulate, and green on both sides; the globose, bluish black fruits are edible.

59269 to 59273. FICUS CARICA L. Moraceæ. Fig.

From Tiziuzu, Algeria. Cuttings presented by E. Rolland. Received April 18, 1924. Notes by Mr. Rolland.

59269. *Tharanimth Amelal Embgais*; a white fig from Bougie.

59270. *Tharanimth Sultane*; same as the Spanish variety "Cou de Dames."

59271. *Tharanimth Sadfar*; a rock fig from Sidi Belloua.

59272. *Tharanimth Baquor Gberkanen*, a black flowering fig from Delhys.

59273. *Tharanimth Sultane Amrabob*.

59274 and 59275.

From Manila, Philippine Islands. Seeds presented by Adriano Hernandez, Director, Bureau of Agriculture. Received April 15, 1924.

59274. *DILLENIA PHILIPPINENSIS* Rolfe. Dilleniaceæ.

Katmon. As described by W. H. Brown (Wild Food Plants of the Philippines, p. 116) this is a large, handsome tree about 60 feet in height, with oval, leathery, shining leaves and very attractive single white flowers about 6 inches wide. The roundish fruits, 2 inches in diameter, contain an edible, soft, green, juicy pulp with acid flavor. Although not particularly good when fresh, the fruits make an excellent jam. This species is very common throughout the Philippines.

For previous introduction, see S. P. I. No. 38333.

59275. *MUSA PARADISIACA* L. Musaceæ. Plantain.

Butuan. An edible, seed-bearing variety from the Philippines; introduced for use in banana-breeding experiments.

59276 to 59278. RUBUS spp. Rosaceæ.

From Orleans, France. Plants purchased from the Grandes Roseaies du Val de la Loire. Received April 18, 1924.

59276. *RUBUS FLAGELLIFLORUS* Focke.

An evergreen or partly deciduous, shrubby, climbing species about 8 feet high, with simple, heart-shaped leaves, white flowers, and medium-sized, glossy black fruits. Native to central and western China at altitudes of 4,000 to 6,000 feet.

59277. *RUBUS HENRYI* Hemsl. and Kuntze.

A handsome evergreen species, of graceful habit, with trailing shoots 10 to 15 feet long. The leaves, 4 to 6 inches long, are covered beneath with a white felt; the pink flowers are about three-fourths of an inch across; the fruits are shining black. Native to central and western China.

59278. *RUBUS POLYTRICHUS* Progel.

A thornless, very ornamental species, covered with red hairs and having entire, light-green leaves.

59279. SOCRATEA EXORRHIZA (Mart.)
Wendl. Phœnicaceæ. **Palm.**

From Rio de Janeiro, Brazil. Seeds presented by Dr. L. H. Bailey, Ithaca, N. Y. Received April 17, 1924.

This tall, handsome, spineless palm from tropical South America has a swollen cylindrical trunk elevated on a pyramid of exposed roots, which gives it a remarkable appearance. The trunk, 35 feet or more in height, bears at its summit a crown of large, irregularly pinnate leaves; the flowers are small and yellow and the fruits olive green.

59280 to 59284.

From Addis Ababa, Abyssinia. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received April 18, 1924. Notes by Doctor Shantz.

59280 and 59281. CICER ARIETINUM L. Fabacæ.
Chick-pea.

59280. (No. 61. February 4, 1924.) Black form from market. This is one of the important crops in grain rotation. Black plants do not produce brown seeds; these seem to be on separate plants.

59281. (No. 62. February 4, 1924.) Mostly brown seeds.

59282. HOLCUS SORGHUM L. (Sorghum vulgare Pers.). Poacæ. **Sorghum.**

(No. 66. February 4, 1924.) Type of sorghum sold in market.

59293. PISUM SATIVUM L. Fabacæ. **Pea.**
(No. 64. February 4, 1924.) From market.

59284. TRITICUM DURUM Desf. Poacæ.
Durum wheat.

(No. 56. February 4, 1924.) A wheat with a dark perianth; may be of value for breeding purposes.

59285 to 59288.

From Angol, Chile. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received April 19, 1924.

Introduced for testing by cerealists.

59285. AVENA STERILIS L. Poacæ. **Oats.**
Avena rubia.

59286 and 59287. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poacæ. **Common wheat.**

59286. *Chufkin.* **59287.** *Florencio.*

59288. ZEA MAYS L. Poacæ. **Corn.**

A local 12-rowed flint variety with ears 8 inches long. (*Richey and Emerson.*)

59289. COLOCASIA ESCULENTA (L.)
Schott. Aracæ.

From Dominica, British West Indies. Rootstocks presented by Joseph Jones, curator, Botanic Gardens. Received April 22, 1924.

The "sulphur dasheen," as this is known here, has handsome red leafstalks and is worth growing as an ornamental. The tubers are sometimes used as food, but are inferior to those of the common dasheen. The name "sulphur" probably refers to the color of the interior of the tubers. (*Jones.*)

59290 and 59291. TRIFOLIUM PRATENSE
L. Fabacæ. **Red clover.**

From Paris, France. Seeds purchased from Vil-morin-Andrieux & Co. Received April 23, 1924.

Locally grown seeds introduced for clover specialists.

59290. From Cotes du Nord.

59291. From Aisne.

59292. TALINUM TRIANGULARE (Jacq.)
Willd. Portulacacæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received April 22, 1924.

An erect, branching, herbaceous plant, about 3 feet high, native to the West Indies, and recently introduced from Java into the Philippine Islands. The flowers are pink and produced in great profusion. In the Philippines the fleshy, tender leaves are boiled like spinach and served with meat, for which purpose they are excellent. The plant is easily propagated by cuttings. (*Wester.*)

For previous introduction, see S. P. I. No. 57819.

59293. KHAYA NYASICA Stapf. Melia-
cæ.

From Mount Silinda, Southern Rhodesia. Seeds presented by Dr. W. L. Thompson. Received April 19, 1924.

The *red mahogany* is one of our most valuable timber trees and is widely distributed over Mozambique. It is fairly rapid in growth, though not equal to some of the eucalypts in this respect. It is found most often growing near streams, but also on high ground at a distance from water. The timber is very durable and is not attacked by white ants or borers. (*Thompson.*)

59294 to 59298.

From Amsterdam, Netherlands. Seeds presented by the director, Botanic Garden. Received April 22, 1924.

A collection of leguminous plants and grasses introduced for forage-crop specialists.

59294. AESCHYNOMENE INDICA L. Fabacæ.

A bushy leguminous annual 1 to 3 feet high, native to the Tropics, with pale-green, feathery leaves. Procured for trial as fodder and as green manure.

59295. BRACHYPODIUM MEXICANUM (Roem. and Schult.) Link. Poacæ. **Grass.**

An erect annual Mexican grass with rather narrow rough but succulent leaves. Its ultimate height is about 3 feet.

59296. MELICA ALTISSIMA L. Poacæ. **Grass.**

A rather tall perennial European grass, 3 to 4 feet in height, with creeping rhizomes which form a loose turf. The leaf sheaths and the backs of the leaves are very rough.

59297. SUTHERLANDIA FRUTESCENS (L.) R. Br. Fabacæ.

A leguminous shrub about 3 feet in height, with finely pinnate leaves and showy scarlet flowers produced in short axillary racemes. Native to the Mediterranean countries.

59298. SYNTERISMA SINGINALIS (L.) Dulac. Poacæ. **Crab grass.**

Introduced for varietal studies.

59299 and 59300. TRIFOLIUM PRATENSE
L. Fabacæ. **Red clover.**

From Budapest, Hungary. Seeds purchased from the Royal Hungarian Seed-Control Station. Received April 23, 1924.

Locally grown seeds introduced for clover specialists.

59299. From the central part of the great Hungarian plain between the Danube and the Theiss Rivers.

59300. From the western part of Hungary, near the Styrian border.

59301 to 59304.

From Soledad, Cienfuegos, Cuba. Seeds collected by David Fairchild, Bureau of Plant Industry. Received April 17, 1924.

59301. *ALEURITES MOLUCCANA* (L.) Willd. (*A. triloba* Forst.). Euphorbiaceae. Lumbang.

No. 14. This appears to be different from the tree as it is now growing in Florida. Since the lumbang is a very promising tree for nut culture in southern Florida, we ought to get all possible strains for our collection.

For previous introduction, see S. P. I. No. 52755.

59302. *CEDRELA ODORATA* L. Meliaceae.

No. 15. This is the tree which produces the cigar-box wood of Cuba. It deserves to be tried in Florida as a possible timber tree.

A tree, sometimes 100 feet tall, with handsome bright-green compound leaves 10 to 20 inches long. Native to the West Indies.

59303. *SERJANIA PANICULATA* H. B. K. Sapindaceae.

No. 16. An ornamental vine with white flowers and handsome clusters of fruits; these have white arils and red bracts. This vine would be useful for pergolas.

59304. *TRICHOSTIGMA OCTANDRA* (L.) H. Walter (*Villamilla octandra* Hook. f.). Phytolaccaceae.

No. 17. *Juaniqui* (Cuban name). The larger twigs of this tree are used like osier willow twigs, for the manufacture of baskets, and an extensive trade is carried on here in Cuba.

59305 to 59317.

From Soledad, Cienfuegos, Cuba. Seeds collected by David Fairchild, Bureau of Plant Industry. Received April 21, 1924.

59305. *ASSONIA MASTERSII* (Hook.) Kuntze (*Dombeya mastersii* Hook.). Sterculiaceae.

No. 25. An ornamental shrub closely related to *Assonia walkii*, with rosy white flowers.

A shrub 4 or 5 feet high, native to tropical Africa. The leaves are velvety, heart shaped, and serrate, and the flowers are fragrant.

59306. *CAJAN INDICUM* Spreng. Fabaceae.

Pigeon pea.

No. 29. A strain, brought by R. M. Grey into Cuba from Haiti, which may be more resistant to weevils than the common form.

59307. *CANAVALI RUSIOSPERMUM* Urban. Fabaceae.

No. 30. An ornamental climber with brilliant red beans; it would be excellent for dooryard gardens in Florida.

59308 to 59310. *CARICA PAPAYA* × *POSOPOSA*. Papayaceae.

These appear to be hybrids between a very large-fruited papaya and a species with very small round fruits which Mr. Grey thinks may be *Carica posoposa*. There are several types of these hybrids which differ not only in the shape of the fruits but also in seed characters.

59308. A hybrid papaya.

59309. A good melon papaya type.

59310. A top-shaped papaya type; the fruit weighed 12 pounds.

59311. *CARICA POSOPOSA* L. Papayaceae.

No. 21. The small round fruits are produced in crowded racemes at the summit of the stem. This species may be of use for breeding purposes.

59305 to 59317—Continued.

59312. *CASSIA FISTULA* L. Caesalpinaceae.

No. 23. The *golden shower* is a handsome yellow-flowered tree introduced into the West Indies from India. The large pinnate leaves have four to eight pairs of leaflets, and the black, cylindrical pods, 1 or 2 feet long, are the "cassia pods" of commerce.

59313. *EUGENIA UNIFLORA* L. Myrtaceae.

Pitanga.

No. 32. This is like the ordinary pitanga except that it has smaller seeds than any I have observed in Florida. An improved variety should come from these seeds.

59314. *GARCINIA TINCTORIA* (DC.) W. F. Wight (*G. xanthochymus* Hook. f.). Clusiaceae.

No. 33. These seeds are from a large tree growing at the Cuban Gardens, Cienfuegos, sent by the Office of Foreign Seed and Plant Introduction to Mr. Grey in 1907. Its deep-green foliage and handsome crown make it a very attractive ornamental. The tree was loaded with its brilliant yellow fruits, which are delicious when eaten with plenty of sugar; the sharp acid flavor is quite different from that of the citrus fruits. The yellow fruits are worthy of a place on the American table, either for direct use with sugar or for sherbet and ice cream. The tree ripens its fruits in southern Florida in April or even earlier and deserves to be popularized as a fruit tree for small places.

For previous introduction, see S. P. I. No. 55454.

59315. *LAGERSTROEMIA SPECIOSA* (Muenchh.) Pers. (*L. flos-reginae* Retz.). Lythraceae.

Crape myrtle.

No. 24. A tree crape myrtle from the Malay Archipelago which deserves to be better known in southern Florida.

A tree 50 to 60 feet tall, with leaves resembling somewhat those of the guava, and pink or purplish flowers about 2 inches wide, produced in immense panicles.

For previous introduction, see S. P. I. No. 49538.

59316. *LATANIA LODDIGESII* Mart. Phœnicaceae.

Palm.

No. 30. A magnificent palm from Mauritius, which grows close to the seashore, producing a most tropical effect. It is peculiarly suited to conditions in southern Florida, although rare in that region.

For previous introduction, see S. P. I. No. 51721.

59317. *TINNEA AETHIOPICA* Kotschy and Peyr. Menthaceae.

No. 26. An ornamental flowering shrub from tropical Africa.

A much-branched shrub about 4 feet high, with oblong, short-stemmed leaves. The dark, purplish brown flowers are produced in axillary whorls.

59318 to 59323.

From Giza, Egypt. Seeds presented by the director of the horticultural section, Ministry of Agriculture. Received April 16, 1924.

A collection of leguminous plants obtained for the use of specialists experimenting with green-manure and cover-crop plants.

59318 to 59321. *CROTALARIA* spp. Fabaceae.

59318. *CROTALARIA CANDICANS* Wight and Arn.

A stiffly erect, much-branched, shrubby species, with hairy and somewhat leathery, broadly rounded leaves, and panicles of small, silky, yellow flowers. Native to southwestern India.

59318 to 59323—Continued.

59319. CROTALARIA CAPENSIS Jacq.

A stout, much-branched, South African shrub about 4 feet in height, with broadly oval leaves and pure yellow flowers in many-flowered racemes.

59320. CROTALARIA LEIOLOBA Bartling.

A species from the mountainous districts of northeastern India, and also distributed through the East Indies. It is one of the more robust of the herbaceous species, with finely silky branches and leaves, the latter being oblong and about 2 inches in length.

59321. CROTALARIA TETRAGONA Roxb.

An erect, stiff shrub, often 6 feet in height, which grows wild in the Himalayas of northeastern India, ascending to an altitude of 3,500 feet. The thinly silky, membranous, narrow leaves are sometimes a foot long, and the lemon-yellow flowers are produced in lax racemes 6 inches or more in length.

59322. SESBAN SERICEUM (Willd.) DC. Fabaceæ.

An unarmed shrubby annual, often several feet in height, native to the plains of Ceylon. The silky, pinnate leaves are about a foot in length, and the flowers, pale yellow dotted with red, are in lax racemes.

59323. SESBAN sp. Fabaceæ.

Received as *Sesban aculeatum*, but the seeds do not appear to be that species.

59324 to 59327.

From Athens, Greece. Scions presented by P. O. Anagnostopoulos, director, horticultural station. Received April 25, 1924. Notes by Mr. Anagnostopoulos.

A collection of apple and pear varieties introduced from Greece for testing by pomologists.

59324. MALUS sp. Malaceæ. Apple.

Feriki. Trees of good size and thrifty, bearing regularly and heavily. Fruit conical, mostly one sided; color yellow with cheeks streaked with red; quality good; time of harvesting September; good keeper.

59325 to 59327. PYRUS spp. Malaceæ. Pear.

59325. PYRUS sp.

Kontoula. One of the popular summer varieties. Fruits juicy, of good flavor; shape pyriform; length about 2 inches; color light yellow. Ripens in July.

59326. PYRUS sp.

Skopelitic. Tree of medium size; fruit pyriform, $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long; color yellow with red cheek; flesh somewhat coarse. Season, middle to end of July. Ships well when gathered slightly green.

59327. PYRUS sp.

Traconico. The winter pear of Greece. Shape pyriform; size 2 to 3 inches long. Flesh juicy and of good quality. When gathered in the fall it keeps all winter.

59328 and 59329.

From Loanda, Angola. Seeds presented by Reed Paige Clark, American consul, Loanda, through C. V. Piper, Bureau of Plant Industry. Received April 23, 1924.

The two forage grasses in this shipment were grown in the Loanda consular district, Angola, and are intended for the use of department forage-crop specialists. The native names given are those used in connection with the export statistics of these seeds at Loanda.

59328 and 59329—Continued.

59328. CHAETOCHELOA ITALICA (L.) Scribn. (*Setaria italica* Beauv.). Poaceæ. Millet.

Painco or *milho painco*.

59329. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.). Poaceæ. Sorghum.

Massambala.

59330. ALLIUM CEPA L. Liliaceæ. Onion.

From Valencia, Spain. Seeds purchased through Clement S. Edwards, American consul. Received April 25, 1924.

In order to assist horticulturists carrying on onion-selection experiments, this shipment of authentic Denia onion seeds has been obtained from Spain. In the United States this variety is carried under the name Pritzetaker.

59331. PACOURIA CAPENSIS (Oliver) S. Moore. Apocynaceæ.

From Pretoria, Transvaal, South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received April 26, 1924.

A low, scrambling shrub which is common on the kopjes (hillocks) north of Pretoria, producing an abundance of white flowers in the spring and numerous large reddish yellow fruits in late summer. These fruits, known locally as "wild peaches" or "wild apricots," have an agreeable flavor and are used raw or as preserves. This shrub, allied to *Landolphia*, belongs to a family which includes rubber-yielding species, and has been secured for specialists who are seeking new sources of rubber.

59332. SIDEROXYLON AUSTRALE (R. Br.) Benth. and Hook. Sapotaceæ.

From Brisbane, Queensland, Australia. Seeds purchased from C. T. White, Government botanist. Received April 26, 1924.

The rich milky sap of this Australian tree, which resembles cream in taste, is said to yield gutta-percha, and seeds have been secured for the use of department rubber specialists. The round, purplish fruits, about 2 inches in diameter, are edible, although of coarse texture and insipid flavor. The dark-colored, prettily veined timber is used in Australia for cabinetwork and carving.

For previous introduction, see S. P. I. No. 44072.

59333. CHENOPODIUM QUINOA Willd. Chenopodiaceæ. Quinoa.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Collected for cultural tests.

59334 to 59339. NICOTIANA TABACUM L. Solanaceæ. Tobacco.

From Montevideo, Uruguay. Seeds presented by R. Salgueiro Silveira, Sección de Economía Rural. Received April 28, 1924.

Introduced for testing by tobacco specialists.

59334. *Amarelo* or *Cheiros*.59335. *Amarelo* Rio Grande do Sul No. 1.59336. *Bahia*.59337. *Espadin*.59338. *Fumo Bahiano* No. 4.59339. *Repollo*.

59340 and 59341. ALLIUM spp. Liliaceae.

From Paris, France. Seeds presented by Prof. D. Bois, Museum of Natural History. Received April 26, 1924.

Introduced for horticulturists investigating the food possibilities of the genus *Allium*.

59340. ALLIUM OBLIQUUM L.

A species cultivated in Siberia as a substitute for garlic. It has a narrowly egg-shaped bulb and a stem up to 3 feet in height.

For previous introduction, see S. P. I. No. 58684.

59341. ALLIUM SUBHIRSUTUM L.

A white-flowered species from the warmer sections of the Mediterranean countries. It becomes about a foot high, with narrow, hairy margined leaves.

59342 to 59345. DIOSPYROS KAKI L. f. Diospyraceae. Kaki.

From Okitsu, Japan. Scions presented by Prof. T. Onda, director, Government Horticultural Experiment Station. Received May 2, 1924. Notes by C. C. Thomas, Bureau of Plant Industry.

These are said to be unusually hardy varieties.

59342. A large oblate persimmon, equatorial diameter 3 inches, longitudinal diameter $1\frac{1}{2}$ inches, prominently quadrangular with four furrows extending upward from the blossom end. Flesh yellow, almost seedless; skin orange.

59343. An oblong conical persimmon, resembling Hachiya in shape, with a longitudinal diameter of about 3 inches and an equatorial diameter of $2\frac{1}{2}$ to 3 inches. Flesh and skin lemon yellow; seeds present.

59344. The fruit of this variety is oblate and noticeably quadrangular with four prominent furrows extending from the blossom end upward toward the angles. The equatorial diameters are about equal, 3 by 3 inches; the longitudinal diameter is $1\frac{1}{2}$ to 2 inches. Seeds are present. The flesh is yellow and the skin orange.

59345. A large, oblate persimmon somewhat angular. The equatorial diameter is 4 inches and the longitudinal 2 inches. The flesh is seedless and yellow; the skin is orange.

59346 to 59351. ALLIUM spp. Liliaceae.

From Dorpat, Estonia. Seeds presented by the director, Botanical Garden, University of Dorpat. Received April 30, 1924.

A collection of *Alliums* secured for horticulturists investigating the food possibilities of the genus.

59346. ALLIUM ALBRIDUM Fisch.

A species with clustered oblong bulbs, very narrow semiterete leaves, and white or yellowish white flowers. Native to southern Russia.

59347. ALLIUM ANGULOSUM L.

A rather variable species, distributed from eastern Europe through Siberia in dry rocky places. It is usually a low plant with narrow leaves and a hemispherical head of lilac-purple flowers.

For previous introduction, see S. P. I. No. 58675.

59348. ALLIUM LIBANI Boiss.

A species with very narrow, wavy leaves and a dense umbel of straw-colored flowers. It is about 4 inches in height and grows wild in the mountains of southern Palestine.

59349. ALLIUM LINEARE L.

A Siberian species with very narrow flat leaves and yellowish white flowers.

59346 to 59351—Continued.**59350. ALLIUM SACCULIFERUM Maxim.**

An erect, red-flowered species, 2 feet or more in height, with triangular, sharp-pointed leaves. Native to the southern Amur region, Siberia.

59351. ALLIUM VICTORIALIS L.

One of the most distinct species of European *Alliums*, with stems about a foot and a half high and leaves resembling those of the lily-of-the-valley. The white or greenish white flowers are produced in May.

For previous introduction, see S. P. I. No. 58691.

59352 to 59355.

From Cambridge, England. Seeds presented by the director of the Botanical Garden, University of Cambridge. Received April 28, 1924.

Introduced for the use of forage-crop specialists.

59352. ASTRAGALUS CHINENSIS L. f. Fabaceae.

An erect, herbaceous plant, native to China, with smooth slender stems, elliptic-obtuse leaflets, and pendulous, few-flowered racemes.

59353. BRACHYPODIUM JAPONICUM Miquel. Poaceae. Grass.

A tall coarse grass with rough leaves and large flower spikes about 6 inches long. Native to sandy places in Japan.

59354. PANICUM BULBOSUM H. B. K. Poaceae. Grass.

A bulbous-rooted, caespitose Mexican grass with erect stems 3 or 4 feet in height and narrow long-pointed leaves.

59355. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceae. Soy bean.**59356. SPONDOGONA SALICIFOLIA (L.) House (Dipholis salicifolia A. DC.). Sapotaceae.**

From San Manuel, Oriente, Cuba. Seeds presented by Dr. Mario Calvino, Estación Experimental y Escuela Agrícola. Received April 26, 1924.

Cuya, or *Jocuma blanca*. This is a beautiful, showy, evergreen, native tree; it is drought resistant, thrives in calcareous soils, and is a rapid grower. I consider it an excellent ornamental and shade tree for tropical regions. (Calvino.)

59357. VICIA MICHAUXII Spreng. Fabaceae. Vetch.

From Ariana near Tunis, Tunisia, Africa. Seeds presented by F. Boeuf, chief, Botanical Service. Received April 30, 1924.

A creeping or climbing annual vetch, native to Syria, with very narrow leaflets, light-yellow flowers, and hairy pods about an inch long. Secured for department agronomists for trial as a green-manure and forage plant.

For previous introduction, see S. P. I. No. 55547.

59358 to 59360.

From Groningen, Netherlands. Seeds presented by the director, Botanical Gardens. Received April 26, 1924. Introduced for trial by forage-crop specialists.

59358. ARRHENATHERUM ERIANTHUM Boiss. and Reut. Poaceae. Grass.

A tall, perennial grass, native to Spain, with flat leaf blades and dense erect panicles.

59359. CALAMAGROSTIS LANCEOLATA Roth. Poaceae. Grass.

A perennial, moisture-loving grass, 2 to 4 feet high, with limp, very narrow leaves, drooping panicles, and creeping rhizomes with long stolons. Native to western Europe.

59358 to 59360—Continued.

59360. *CORONILLA GLAUCA* Jusl. Fabaceæ.

A small, yellow-flowered European shrub with handsome glaucous foliage.

59361 and 59362.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received April 26, 1924.

59361. *DANTHONIA SEMIANNULARIS* (Labill.) R. Br. Poaceæ.

A perennial tufted grass, producing a fair amount of soft succulent fodder suitable for either sheep or cattle. The leaves are narrow, usually hairy, and light green. The flower stems grow about 2 feet high and the seed, which sheds easily, is produced in clusters that have a white woolly appearance when ripe. *Wallaby grass* provides good pasturage during the spring and summer and remains green in the winter months.

For previous introduction, see S. P. I. No. 56566.

59362. *THEMEDA QUADRIVALVIS* (L.) Kuntze (*Anthistiria ciliata* L. f.). Poaceæ.

A coarse, rather tough annual grass which grows in tufts from 1 to 3 feet in height. It is closely related to the kangaroo grass of Australia and Tasmania. (C. V. Piper, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 50334.

59363 to 59371.

From Copenhagen, Denmark. Seeds presented by Dr. Axel Lange, director, Botanical Garden. Received April 30, 1924.

The following collection of plants, chiefly grasses, has been secured for forage-crop specialists.

59363. *AVENA MONTANA* Vill. Poaceæ. Grass.

A perennial, caespitose grass, native to alpine and subalpine sections of southern Europe, with laxly ascending stems and loosely folded leaves. The loose panicle is about 6 inches long.

59364. *AVENA PLANICULMIS* Schrad. Poaceæ. Grass.

A Siberian species with leaves about half an inch in width, found in dry, open situations.

59365. *CROTALARIA SEMPERFLORENS* Vent. Fabaceæ.

A shrubby species from the tropical section of India, with oblong green leaves about 4 inches long and bright-yellow flowers.

59366. *ELYMUS EUROPAEUS* L. Poaceæ. Lyme grass.

A loosely caespitose, perennial, European grass, with erect flowering stems and broadly linear leaves which taper to a long, slender point.

For previous introduction, see S. P. I. No. 53048.

59367. *MEDICAGO MARINA* L. Fabaceæ.

A perennial, very hairy, yellow-flowered species from the sandy coastal regions in Asia Minor. The stems are either prostrate or ascending.

59368. *MUHLENBERGIA MEXICANA* (L.) Trin. Poaceæ. Grass.

A good perennial fodder grass, native to Mexico, said to be particularly suited for low, humid lands. It has a creeping rootstock and a much-branched stem.

59369. *PISUM SATIVUM* L. Fabaceæ. Pea.

Introduced for varietal studies.

59370. *TRIFOLIUM MARITIMUM* Huds. Fabaceæ. Clover.

An annual, erect or decumbent, branching clover from Asia Minor, where it grows in fields and along the seacoasts. The flowers are white or pale flesh colored.

59363 to 59371—Continued.

59371. *VIGNA CYLINDRICA* (Stickm.) Skeels. Fabaceæ. Catjang.

The catjang is closely allied to the cowpea, and these seeds have been secured as of possible value in obtaining an improved strain of cowpea for cultivation in the United States.

59372 and 59373. *MAGNOLIA CAMPBELLII* Hook. f. and Thoms. Magnoliaceæ.

From Orleans, Loiret, France. Plants presented by Léon Chenault. Received May 14, 1924.

The enormous flowers of this magnolia, 10 to 14 inches across and varying in color from white to nearly purple, make it one of the finest ornaments of the genus. It is a native of the Himalayas, where it ascends to an altitude of 8,000 feet. The tree becomes 80 feet in height and is deciduous, with very dark bark and large, elliptical, dark-green leaves. It is most likely to find congenial conditions in mild-wintered sections of the Southern States where there is abundant rainfall.

59372. A red-flowered form.

59373. A white-flowered form.

59374. *ERYTHRINA BOGOTENSIS* Hort. Fabaceæ.

From Havana, Cuba. Cuttings presented by F. E. Betheuser. Received May 10, 1924.

The erythras are handsome leguminous trees or shrubs, rather generally distributed throughout the Tropics of both hemispheres. This species, in common with many of the rest, has terminal racemes of beautiful scarlet flowers and deserves a trial in southern Florida.

59375. *CICER ARIETINUM* L. Fabaceæ. Chick-pea.

From Los Mochis, Sinaloa, Mexico. Seeds presented by Albert H. Amis, Los Mochis Agricultural Experiment Station. Received May 2, 1924.

A small-seeded chick-pea introduced for testing by agronomists.

59376. *GARCINIA BINUCAO* (Blanco) Choisy. Clusiaceæ. Binukao.

From Manila, Philippine Islands. Seeds presented by the Director, Bureau of Agriculture. Received May 21, 1924.

For previous introduction and description, see S. P. I. No. 58958.

59377. *MUSA PARADISIACA SAPIENTUM* (L.) Kuntze. Musaceæ. Banana.

From Santa Marta, Colombia. Stumps presented by V. M. Cutter, United Fruit Co., Boston, Mass. Received May 6, 1924.

Gros Michel. More than nine-tenths of the bananas imported into the United States are of this variety. It is cultivated in the West Indies and in many places on the mainland of tropical America. Commercially it has been found the most satisfactory of all varieties, and now that our markets have become so accustomed to it, attempts to popularize other sorts have not been successful.

In quality, *Gros Michel* is surpassed by many other bananas. It has another defect also—susceptibility to the Panama disease, *Fusarium cubense*, which has played havoc in the banana plantations of several countries. In spite of these handicaps, it still reigns supreme.

During the last few years, considerable attention has been devoted to banana culture in Florida. The Cavendish or Chinese variety has been planted commercially in a few sections, and good returns have been reported. Several other varieties also

have been cultivated for many years, but a recent canvass of the State failed to bring to light a single plant of Gros Michel. In view of the prominence which this variety attained in the banana trade years ago, it seems nothing short of astonishing that it should not have become established in Florida.

Florida growers, therefore, requested the department to introduce this variety for trial in their State. Because of the danger of bringing with it the Panama disease, strict precautions must be taken. The plants which Mr. Cutter has presented, in response to our request, were sent from Santa Marta, Colombia, a region where the disease has never been found. Before they are planted in Florida they will be held in quarantine at Washington until all danger of their carrying the disease with them is past. (*Wilson Popenoe*.)

59378 to 59382.

From Echo, Kirin Province, Manchuria. Seeds presented by A. D. Woelkoff, director, Experimental Farm. Received April 28, 1924.

59378 and 59379. Two bush clovers secured for forage-crop specialists.

59378. *LESPEDEZA JUNCEA SERICEA* (Miquel) Forbes and Hemsl. Fabaceæ.

A Japanese bush clover which develops into a shrubby plant about 3 feet in height, with dense foliage and white flowers.

For previous introduction, see S. P. I. No. 55526.

59379. *LESPEDEZA STIPULACEA* Maxim. Fabaceæ.

This Korean bush clover appears to be especially promising in that portion of the eastern United States included between latitudes corresponding to those of northern Ohio and southern Virginia.

For previous introduction, see S. P. I. No. 49027.

59380 and 59381. *LILIUM CONCOLOR* Salisb. Liliaceæ.

A very attractive little Japanese lily, 1 to 3 feet in height, which produces three to six bright-scarlet flowers; these are erect, star shaped, and spotted with black. This species succeeds best in a half-shady place.

59380. Collected in 1922.

59381. Collected in 1923.

59382. *VICIA JAPONICA* A. Gray. Fabaceæ. Vetch.

This has proved to be one of the most promising of the perennial vetches introduced into the United States. Obtained for cultural comparison tests.

59383. *AVENA STERILIS* L. Poaceæ. Oats.

From South America. Seeds collected by Fred D' Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Collected for cereal-breeding experiments.

59384 and 59385. *PHASEOLUS* spp. Fabaceæ.

From Italian Somaliland. Seeds presented by Dr. G. Scasellati Sforzolini, Director of Agriculture and Zootechnics. Received May 6, 1924. Notes by Doctor Sforzolini.

Introduced for horticulturists experimenting with varieties of beans.

59384. *PHASEOLUS AUREUS* Roxb. Mung bean.

Grows spontaneously in the village of Duca Abruzzi.

59384 and 59385—Continued.

59385. *PHASEOLUS RADIATUS* L.

A black-seeded variety from the central Sebeli region.

59386 to 59397.

From Cambridge, England. Seeds presented by the director, Botanical Garden, University of Cambridge. Received May 3, 1924.

59386 to 59389. *ALLIUM* spp. Liliaceæ.

Introduced for horticulturists studying the food possibilities of the genus *Allium*.

59386. *ALLIUM ODORUM* L.

In Japan this onion is cultivated for its leaves, which are eaten as greens; in the spring the leaves are borne luxuriantly by the old bulbs, becoming about a foot in length. (Adapted from *Useful Plants of Japan, Agricultural Society of Tokyo, p. 17.*)

For previous introduction, see S. P. I. No. 55442.

59387. *ALLIUM SCORODOPRASUM* L.

The sand-leek, or rocambole of Europe and Asia Minor, resembles garlic, but has smaller bulbs of milder flavor which are produced at the tip of the stem as well as at its base.

59388. *ALLIUM SCORODOPRASUM BABINGTONII* (Borrer) Richter.

This is a much larger plant than the typical species, the scape being 4 to 6 feet high, and the more numerous leaves are broader, sometimes 2 inches wide at the base. The flowers are pale reddish purple. The bulbous base of the plant is globose, with solid white bulbs attached to the hard white crown of the root. Native to England and probably to Ireland.

59389. *ALLIUM STELLERIANUM* Willd.

A perennial Siberian species which does not form a true bulb. It is characterized by semi-cylindrical leaves and dense flower heads.

59390. *BENINCASA HISPIDA* (Thunb.) Cogn. Cucurbitaceæ. Wax gourd.

Obtained for horticulturists experimenting with cucurbitaceous vegetables.

59391. *ILEX LATIFOLIA* Thunb. Aquifoliaceæ.

A Japanese holly, one of the most attractive of the genus, which sometimes develops into a tree 60 feet tall. The glossy green leaves, 3 to 7 inches long, are oval or narrowly oblong, and the red berries, about one-third of an inch in diameter, are produced in dense clusters.

59392. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ.

Var. *racemigerum*. A South American form with currantlike fruits; secured for horticulturists engaged in tomato-breeding experiments.

59393. *PICEA* sp. Pinaceæ. Spruce.

Received as *P. purgans*, for which a place of publication has not been found.

59394 to 59396. *PISUM* spp. Fabaceæ.

Obtained for testing by horticulturists experimenting with pea varieties.

59394. *PISUM SATIVUM* L. Pea.

59395. *PISUM SATIVUM* L. Pea.

59396. *PISUM SATIVUM UMBELLATUM* L. Pea.

A variety of garden pea with umbellate flowers.

59397. *THLADIANTHA DUBIA* Bunge. Cucurbitaceæ.

A tall climbing herbaceous vine with light-green oval leaves and yellow, bell-shaped flowers. The oblong, succulent fruit, about 3 inches long, is eaten by the natives of northeastern India.

59398 to 59401.

From Edinburgh, Scotland. Presented by William Wright Smith, regius keeper, Royal Botanic Garden. Received May 14, 1924. Introduced for horticulturists experimenting with small fruits.

59398 to 59401. Cuttings.

59398. *RIBES BETHMONTII* Jancz. Grossulariaceae.

A hybrid between *Ribes malvaceum* and probably *R. sanguineum*. It is an upright shrub, about 7 feet in height, with 3-lobed, deep-green leaves, light-pink flowers, and reddish fruits.

59399. *RUBUS BIFLORUS QUINQUEFLORUS* Focke. Rosaceae.

Because of the waxy bloom which covers the long spiny stems this is a very striking shrub. The large pinnate leaves, a foot or more in length, are white beneath, and the large white flowers are produced in terminal and axillary clusters. The edible, golden-yellow fruits of this western Chinese species are about the size of the common raspberry.

59400. *RUBUS CRATAEGIFOLIUS MORIFOLIUS* (Sieb.) Focke. Rosaceae.

A stout, erect or spreading wild raspberry, native to Japan. Because of its numerous, strong prickles and small, orange-red fruits it is of value chiefly to plant breeders.

59401. *VIBURNUM HUPEHENSE* Rehder. Caprifoliaceae.

A fairly hardy, deciduous shrubby species, allied to *Viburnum wrightii*, with coarsely toothed, long-pointed dark-green leaves and ovoid, dark-red fruits. Native to central China.

59402. *CHENOPodium QUINOA* Willd.
Chenopodiaceae. Quinoa.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Obtained from Hector Cusicanqui, of La Paz, Bolivia; crop of 1924. Said to be the best variety grown at La Paz. (Richey and Emerson.)

59403 to 59642.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29 and 30. Quoted notes by Mr. Rock.

59403. *ACONITUM FORRESTII* Stapf. Ranunculaceae.

No. 11446. November, 1923. A plant 3 to 4 feet high collected in alpine meadows at the foot of limestone rocks at an altitude of 11,000 feet, Likiang Snow Range. The leaves are pubescent and dark green, and the spikes, 2 feet or more long, are covered the entire length with the pale-blue to purple flowers.

59404. *ALLIUM* sp. Liliaceae.

No. 11467. November, 1923. A plant 1 to 2 feet high found among meadows of the Likiang Snow Range, at an altitude of 14,000 feet. The rich-blue flowers are produced in drooping globose umbels.

59405. *ASTER STATICEFOLIUS* Franch. Asteraceae.

No. 11423. November, 1923. A shrub 2 to 3 feet high found among rocks (limestone crevices), Likiang Snow Range, at an altitude of 11,000 feet. The leaves are spatulate, the flowers large, and the ray flowers deep blue-purple.

59403 to 59642—Continued.

59406. *ASTER* sp. Asteraceae.

No. 11426. November, 1923. A plant 2 feet high from alpine meadows, Likiang Snow Range, at an altitude of 12,000 to 13,000 feet. The leaves are lanceolate, the flower heads large, 2 inches in diameter, and the ray flowers long and deep blue-purple.

59407. *COTONEASTER* sp. Malaceae.

No. 11220. Champutong, Salwin Valley. October, 1923. A very ornamental shrub 6 inches high found at an altitude of 9,000 feet, with small, orbicular leaves and small red fruits.

59408. *PYRACANTHA ANGUSTIFOLIA* (Franch.) C. Schneid. Malaceae.

No. 11482. November, 1923. A much-branched, spiny shrub 4 to 5 feet high found in dry stream beds and meadows around the Likiang Snow Range, at an altitude of 9,000 feet. The leaves are small and linear, and the fruits are a rich orange-red.

59409. *CREMANTHODIUM* sp. Asteraceae.

No. 11456. Sungkwe, November, 1923. Found in the alpine meadows, at an altitude of 11,000 feet. The large, oval leaves of this plant form a basal rosette, and the drooping flower heads have deep-yellow ray flowers.

59410. *DELPHINIUM* sp. Ranunculaceae.

No. 11455. Mount Lautchun. October, 1923. A plant 3 to 4 feet high found in alpine meadows at an altitude of 12,000 feet, with large, deeply divided leaves and deep-blue flowers on long spikes.

59411. *DELPHINIUM* sp. Ranunculaceae.

No. 11413. November, 1923. A plant 2 feet or more high found at the head of a limestone gorge at Sabaloko, Likiang Snow Range. The deep-green leaves form globose rosettes, and the flowers, in ample spikes, are rich deep blue.

59412. *DELPHINIUM* sp. Ranunculaceae.

No. 11483. November, 1923. A plant 2 to 3 feet high growing in the wet meadows of Heshwe, Likiang Snow Range, at an altitude of 10,000 feet. The leaves are palmatisect and basal, and the dark blue-purple flowers are produced in long spikes.

59413. *DELPHINIUM* sp. Ranunculaceae.

No. 11485. Ngulukeu. November, 1923. A plant 1 to 2 feet high found in meadows among rocks at an altitude of 9,000 feet. The leaves are finely palmatisect, and the rich steel-blue flowers are in large racemes.

59414. *ENKIANTHUS* sp. Ericaceae.

No. 10949 (fruit), 8907 (flowers). November, 1923. A very handsome species 8 to 15 feet high found in the forests of Landjoela, southeastern Tibet, at an altitude of 9,000 feet. The evenly green leaves are oval, and the campanulate flowers are yellow with red stripes and arranged in large clusters.

59415. *EUPTELEA PLEIOSPERMA* Hook. f. and Thoms. Trochodendraceae.

No. 11224. October, 1923. A tree 30 to 40 feet high found along meadows of Champutong, Salwin Valley, at an altitude of 7,000 feet. The oval, crenate, caudately acuminate leaves are pale beneath, and the flowers are red.

59416. *GENTIANA* sp. Gentianaceae.

No. 11437. November, 1923. A branching plant 1 foot high found in alpine meadows at Ladsakodjo, Likiang Snow Range, at an altitude of 12,500 feet. The large, tubular flowers are indigo blue and have salver-shaped corollas.

59403 to 59642—Continued.

59417. *GENTIANA* sp. Gentianaceæ.

No. 11484. Saba. November, 1923. A branching corymbose plant 1 foot high found in moist meadows near Likiang at an altitude of 11,000 feet. The deep-blue flowers, 2 to 3 inches long, have salver-shaped corollas.

59418. *INCARVILLEA LUTEA* Bur. and Franch. Bignoniaceæ.

No. 11412. Likiang Snow Range. November, 1923. A bush 2 to 3 feet high found among limestone rock in scrub forests at an altitude of 9,600 to 11,000 feet. The large leaves are pinnatisect, and the large, yellow flowers are produced in long, terminal spikes.

59419. *INDIGOFERA PENDULA* Franch. Fabaceæ.

No. 11441. November, 1923. An exceedingly ornamental shrub 10 to 15 feet high collected on the Likiang Snow Range at an altitude of 10,000 feet. The handsome flowers are in large pendulous racemes.

For previous introduction, see S. P. I. No. 56315.

59420. *LILIUM* sp. Liliaceæ.

No. 10190. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A plant 1 or 2 feet high found in alpine meadows. The leaves are elliptical, and the flowers are yellow to white.

59421. *MAGNOLIA* sp. Magnoliaceæ.

No. 11231. October, 1923. A tree 8 to 10 feet high growing on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 10,000 feet. The oval leaves are thinly rufous pubescent beneath, and the flowers are large and white.

59422. *MALUS YUNNANENSIS* (Franch.) C. Schneid. (*Pyrus yunnanensis* Franch.). Malaceæ. Apple.

No. 11489. November, 1923. A tree 30 to 40 feet high found in the Lashipa Forest near Sembi, west of Likiang, at an altitude of 9,000 to 10,000 feet. The large, oval, rich-green leaves are greenish pubescent beneath, and the red fruits are 1 inch in diameter.

59423. *MALUS* sp. Malaceæ.

No. 11356. December, 1923. A shrub or tree 30 feet high found in the forests on the eastern slope of Karila, at an altitude of 12,000 feet. The lianlike branches are long and rambling, and the fruits are red and obovate.

59424. *MEIBOMIA* sp. (*Desmodium* sp.). Fabaceæ.

No. 11440. November, 1923. A shrub 8 to 10 feet high found along streams on the Likiang Snow Range, at an altitude of 9,000 to 10,000 feet. The rich-pink flowers, produced in large racemes, make this a very handsome shrub.

59425. *PAEONIA LUTEA* Delavay. Ranunculaceæ.

No. 11488. November, 1923. A shrub 1 to 2 feet high found on the dry slopes of Mount Lautchun, west of Likiang, at an altitude of 8,000 feet. The large leaves are white beneath, and the flowers are large and yellow.

59426. *PHILADELPHUS* sp. Hydrangeaceæ.

No. 11416. Likiang Snow Range. November, 1923. A very handsome species 8 to 10 feet high found on the outskirts of forests at an altitude of 10,000 to 11,500 feet. The large white flowers, produced in large racemes, are fragrant.

59427. *PINUS SINENSIS YUNNANENSIS* (Franch.) Shaw. Pinaceæ. Pine.

No. 11699. December, 1923. One of the most common trees in Yunnan, varying in height from 30 to 80 feet and with a very straight or crooked trunk, depending on the location and exposure. On the Likiang Snow Range, where these seeds were collected, this pine is associated with *Quercus*

59403 to 59642—Continued.

delarayi, *Q. semecarpifolia*, and *Rhododendron fortunei*. It prefers well-drained soils. It grows at altitudes ranging from 9,000 to 11,000 feet, with only scattered individual trees at the higher levels. In the more moist region its place is taken by *Pinus armandi* and in the higher altitudes by *Picea* and *Tsuga*.

59428 to 59434. *PRIMULA* spp. Primulaceæ. Primrose.59428. *PRIMULA LITTONIANA* Forrest.

No. 9859. September, 1923. A very handsome plant 2 to 3 feet tall growing in swampy meadows west of the Likiang Snow Range at Ganhaitze and also east of Lahgwubo, at an altitude of 10,000 to 11,000 feet. The deep indigo-blue flowers are borne in long, densely packed spikes and the calyxes, a rich carmine, are very striking.

59429. *PRIMULA SECUNDIFLORA* Franch.

No. 11425. Likiang Snow Range. November, 1923. Collected at an altitude of 13,000 feet.

For previous introduction and description, see S. P. I. No. 58375.

59430. *PRIMULA* sp.

No. 10182. October, 1923. A plant several inches high found in the alpine meadows of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The leaves are green and elliptical, and the flowers are a rich deep purple.

59431. *PRIMULA VALENTINIANA* Hand.-Mzt.

No. 11171. October, 1923. A plant 4 to 5 inches high found growing in the alpine meadows of Champutong, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The leaves are small, and the flowers are large and blue.

59432. *PRIMULA AGLENIANA* Balf. f. and Forrest.

No. 11197. October, 1923. Found growing in the alpine meadows of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The leaves are lanceolate and crenate, and the flowers are large and white with a pinkish tinge, drooping in large umbels.

59433. *PRIMULA INGENS* W. W. Smith and Forrest.

No. 11332. November, 1923. Collected in the alpine meadows of Mount Peima, at an altitude of 14,000 feet. The leaves are linear-lanceolate and glabrous, and the flowers are pale blue.

59434. *PRIMULA POISSONI* Franch.

No. 11487. November, 1923. From 3 to 4 feet high found in moist meadows near Labako, west of Likiang, at altitudes of 8,000 to 9,000 feet. The leaves are basal, linear-lanceolate, and the flowers are produced in long spikes (candelabra).

59435. *RHODODENDRON ARALIAEFORME* Balf. f. and Forrest. Ericaceæ.

No. 11404. November, 1923. Collected in pine forests of the Likiang Snow Range between 9,000 and 10,000 feet altitude. The large, fragrant flowers are white, pink, or purplish, but usually pink. This species is found all over Yunnan.

59436 to 59638. *RHODODENDRON* spp. Ericaceæ.59436. *RHODODENDRON* sp.

Nos. 1372 (fruit), 8500 (flowers). November, 1923. A shrub 4 feet high growing on alpine slopes among limestone rocks on the Likiang Snow Range at altitudes of 13,000 to 14,000 feet. The pale, thin leaves are obovate oblong and covered beneath with yellow tomentum. The flowers are rich pink.

59403 to 59642—Continued.

59437. RHODODENDRON sp.

Nos. 10898 (fruit), 10274 (flowers). November, 1923. A shrub 3 feet high found growing in moist regions on the alpine slopes of Londjre between 12,000 and 13,000 feet altitude. The leaves are elliptical, glabrous, and evenly green, and the flowers are a rich purplish red.

59438. RHODODENDRON sp.

Nos. 10918 (fruit), 9129 (flowers). November, 1923. A shrub 3 feet high found in the alpine region of Tschung at an altitude of 11,000 feet. The elliptical-obovate leaves are green above and covered beneath with deep, chocolate-colored tomentum. The flowers are dark crimson.

59439. RHODODENDRON sp.

Nos. 10920 (fruit), 9104 (flowers). November, 1923. A shrub 6 feet high found in the alpine region of Tschung. The narrow leathery linear leaves, 5 inches long, have revolute margins and are covered beneath with rufous wool. The flowers are white.

59440. RHODODENDRON sp.

Nos. 10921 (fruit), 9107 (flowers). November, 1923. A tree 13 to 14 feet high found in fir forests in the alpine region of Tschung at an altitude of 11,000 feet. The large, oblong leaves are dark green above and covered with a deep-brown wool beneath. The flowers are large and white and are on long pubescent pedicels.

59441. RHODODENDRON sp.

Nos. 10922 (fruit), 9287 (flowers). November, 1923. A shrub 1 to 2 feet high found growing in masses in the alpine region of Tschung. The oval-elliptical leaves are silvery white beneath, and the flowers are large and orange to red.

59442. RHODODENDRON sp.

Nos. 10923 (fruit), 9101 (flowers). November, 1923. A shrub 7 feet high from the alpine region of Tschung at an altitude of 11,000 feet. The elliptic-oblong, acute leaves are dark green above and a deep red to golden yellow beneath. The flowers are large and a rich pink.

59443. RHODODENDRON sp.

Nos. 10924 (fruit), 9124 (flowers). November, 1923. A shrub 1 to 2 feet high found growing in the rocky alpine meadows of Tschung at an altitude of 12,000 feet. The small, ovate leaves are yellow to red-brown beneath, and the small, deep rose-pink flowers are produced in clusters.

59444. RHODODENDRON sp.

Nos. 10928 (fruit), 10064 (flowers). November, 1923. A shrub 1 to 2 feet high growing in masses in the moist alpine region of Tschung at an altitude of 12,000 feet. The leaves are elliptic and white beneath, and the flowers are medium and bright red.

59445. RHODODENDRON sp.

Nos. 10929 (fruit), 9098 (flowers). November, 1923. A shrub 6 feet high from the slopes of the Tschung Mountains at an altitude of 10,000 feet. The evenly green leaves are obovate and glabrous, and the large, pink flowers are borne on slender pedicels.

59446. RHODODENDRON sp.

Nos. 10930 (fruit), 8835 (flowers). November, 1923. A shrub 3 to 4 feet high growing in fir forests on the alpine slopes of Tschung. The oval leaves are glabrous on both sides, and the flowers are a handsome pink.

59403 to 59642—Continued.

59447. RHODODENDRON FULVIDES Balf. f. and Forrest.

Nos. 10931 (fruit), 8883 (flowers). November, 1923. A tree 15 to 16 feet high found along streams on the Londjre Mountains, southeastern Tibet, at an altitude of 11,000 feet. The large, oblong, acute leaves are brown tomentose beneath, and the flowers are rose-pink.

59448. RHODODENDRON sp.

Nos. 10932 (fruit), 10301 (flowers). November, 1923. A shrub 4 feet high found growing in the alpine region of Londjre, southeastern Tibet. The ovate-elliptical leaves are dark green above and fawn-colored beneath, and the large, crimson flowers are borne on short pedicels.

59449. RHODODENDRON sp.

Nos. 10933 (fruit), 10292 (flowers). November, 1923. A shrub or small tree 7 feet high found in fir forests of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The large, oblong, acute leaves are brown tomentose beneath, and the flowers are large and white and are borne on slender pedicels.

59450. RHODODENDRON sp.

Nos. 10934 (fruit), 10307 (flowers). November, 1923. A shrub 2 feet high, growing in masses on open slopes in the alpine region of Londjre, southeastern Tibet, at altitudes between 12,000 and 13,000 feet. The linear-elliptical leaves are white to drab beneath, and the flowers are a yellowish red.

59451. RHODODENDRON sp.

Nos. 10936 (fruit), 8888 (flowers). November, 1923. A shrub 3 to 4 feet high found in the forests of Londjre, southeastern Tibet, at altitudes between 10,000 and 11,000 feet. The large leaves are oblong, acuminate, and brown beneath. The flowers are rose-pink.

59452. RHODODENDRON sp.

Nos. 10937 (fruit), 8887 (flowers). November, 1923. A very handsome species 6 to 8 feet high growing on the slopes of the Londjre Mountains, southeastern Tibet. The elliptical, deep-green leaves are glabrous on both sides, and the very large, fragrant flowers, in large umbels are a rich blue-lavender.

59453. RHODODENDRON sp.

Nos. 10938 (fruit), 8909 (flowers). November, 1923. A shrub 2 to 3 feet high found growing in masses on the alpine slopes of Londjre, southeastern Tibet. The leaves are elliptical and drab beneath, and the flowers are a very dark red.

59454. RHODODENDRON sp.

Nos. 10939 (fruit), 8884 (flowers). November, 1923. A shrub 3 to 4 feet high found in the alpine forests of Londjre, southeastern Tibet. The oblong-ovate leaves are golden yellow and glabrous beneath; the flowers are large and a deep purplish red.

59455. RHODODENDRON sp.

Nos. 10940 (fruit), 8910 (flowers). November, 1923. A shrub 2 to 3 feet high growing in the alpine region of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The elliptical leaves are white beneath; the flowers are yellow at the base, and the lobes are red.

59456. RHODODENDRON sp.

Nos. 10947 (fruit), 10313 (flowers). November, 1923. A handsome species 3 feet high growing in masses in the alpine region of Londjre, southeastern Tibet. The leaves are oblong linear and drab beneath; the flowers are large and a deep carmine.

59403 to 59642—Continued.

59457. RHODODENDRON sp.

Nos. 10948 (fruit), 10300 (flowers). November, 1923. A shrub 3 feet high found in the alpine region of Londjre, southeastern Tibet. The oblong leaves have brown wool beneath, and the carmine-purple flowers are produced in dense clusters.

59458. RHODODENDRON sp.

Nos. 10950 (fruit), 10267 (flowers). November, 1923. A shrub 2 feet high growing on the alpine slopes of Londjre, southeastern Tibet. The small, oval, green leaves are mealy beneath, and the medium-sized flowers are rich pink.

59459. RHODODENDRON sp.

Nos. 10951 (fruit), 10304 (flowers). November, 1923. A shrub 2 feet high growing in the open moist region on the alpine slopes of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The leaves are oval, small, and glabrous, and the flowers are pale yellow.

59460. RHODODENDRON sp.

Nos. 10952 (fruit), 8881 (flowers). November, 1923. A fine species 2 to 3 feet high growing in masses on the alpine slopes of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The elliptical, glabrous leaves are green on both sides, and the flowers are large and a rich carmine.

59461. RHODODENDRON sp.

Nos. 10965 (fruit), 9155 (flowers). November, 1923. A shrub 4 feet high found on rocky alpine slopes of the Tsehung Mountains, Mekong Valley. The elliptical, glabrous leaves are pale beneath, and the flowers are pink.

59462. RHODODENDRON sp.

Nos. 10966 (fruit), 10061 (flowers). November, 1923. A tree 15 to 18 feet high growing in alpine forests on the Tsehung Mountains at an altitude of 13,000 feet. The very large, obovate-oblong leaves are glossy glabrous and silvery beneath. The large flowers are a purplish red.

59463. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10967 (fruit), 8784 (flowers). November, 1923. A shrub 5 to 6 feet high growing in alpine regions on the Tsehung Mountains, Mekong Valley, at an altitude of 12,000 feet. The coriaceous leaves are wrinkled above and covered beneath with ochre-yellow meal. The flowers are white with a pinkish tinge.

59464. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10968 (fruit), 9112 (flowers). November, 1923. A tree 8 to 10 feet high found on the slopes of the Tsehung Mountains, Mekong Valley, at an altitude of 10,000 feet. The oblong leaves are dark green above and brown beneath with prominent ribs. The flowers are pinkish white.

59465. RHODODENDRON sp.

Nos. 10969 (fruit), 9150 (flowers). November, 1923. A rare plant 3 feet high, found in the alpine region of Tsehung, Mekong Valley, at an altitude of 13,000 feet. The leaves are small and elliptical, and the flowers are deep yellow.

59466. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10970 (fruit), 9111 (flowers). November, 1923. A shrub 5 feet high growing on the slopes of the Tsehung Mountains, Mekong Valley, at an altitude of 10,000 feet. The oblong-acute, articulate leaves are covered beneath with brown wool. The flowers are white with a tinge of pink.

59403 to 59642—Continued.

59467. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10971 (fruit), 8780 (flowers). November, 1923. A shrub or small tree 8 feet high growing in the alpine region of Tsehung, Mekong Valley, at an altitude of 12,000 feet. The elliptical-oblong, acute leaves are brown woolly beneath, and the flowers are pinkish purple.

59468. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10972 (fruit), 8779 (flowers). November, 1923. A tree 8 to 10 feet high found at the foot of the Tsehung Mountains, Mekong Valley, at an altitude of about 8,000 feet. The oblong-lanceolate, acuminate leaves are covered with a brown meal beneath, and the large flowers are white with a pinkish tinge.

59469. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10973 (fruit), 8770 (flowers). November, 1923. A shrub 5 to 6 feet high growing in fir forests in the alpine region of the Tsehung Mountains, Mekong Valley, at an altitude of 12,500 feet. The oblong, acuminate leaves are dark green above and brownish yellow beneath. The flowers are large and white.

59470. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10974 (fruit), 8772 (flowers). November, 1923. A shrub 5 to 6 feet high found in the alpine region of Tsehung, Mekong Valley, at an altitude of 12,000 feet. The elliptical-ovate, acute, reticulate leaves are leathery and covered beneath with a brown tomentum. The flowers are purple with a pinkish tinge.

59471. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10975 (fruit), 8767 (flowers). November, 1923. A shrub 8 to 10 feet high found in the alpine region of Tsehung, Mekong Valley. The oblong-acute leaves are dark green above and yellow beneath. The flowers are white with a pinkish purple tinge.

59472. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10976 (fruit), 9113 (flowers). October, 1923. A shrub 5 feet high found growing in the alpine region of Tsehung, Mekong Valley, at an altitude of 11,000 feet. The leaves are coriaceous, reticulate, and pale yellow beneath. The flowers are white.

59473. RHODODENDRON REPENS Balf. f. and Forrest.

Nos. 10993 (fruit), 8788 (flowers). October, 1923. A very handsome, spreading, prostrate plant 1 foot high growing in the alpine meadows of Tsehung at an altitude of 14,000 feet. The obovate leaves are small and glabrous, and the flowers are large and bright scarlet.

59474. RHODODENDRON sp.

Nos. 10996 (fruit), 91321 (flowers). October, 1923. A shrub 4 feet high found in the alpine region of Tsehung, Mekong Valley. The linear-elliptical leaves are rich green covered beneath with brown, deciduous wool. The flowers are red with a purplish tinge.

59475. RHODODENDRON sp.

Nos. 10998 (fruit), 9134 (flowers). October, 1923. A shrub 4 feet high growing in the rocky alpine region of Tsehung at an altitude of 13,000 feet. The thick, linear, rich-green leaves, with revolute margins, have a deep-red wool beneath. The flowers are pink.

59403 to 59642—Continued.

59478. RHODODENDRON sp.

Nos. 11000 (fruit), 9114 (flowers). October, 1923. A shrub 6 feet high found on the slopes of the Tsechung Mountains at an altitude of 10,000 feet. The leaves are oval and glabrous, and the flowers are shaded from lavender to a bluish purple.

59477. RHODODENDRON sp.

Nos. 11004 (fruit), 9109 (flowers). October, 1923. A handsome species 14 to 15 feet high growing in the alpine forests of Tsechung at an altitude of 11,000 feet. The linear-oblong, acute leaves are brown beneath, and the very large, rich-peach flowers are produced in large umbels.

59478. RHODODENDRON COSMETUM Balf. f. and Forrest.

Nos. 11005 (fruit), 8822 (flowers). October, 1923. A very attractive species 1 to 3 feet high growing in the alpine region of Tsechung at an altitude of 13,000 feet. The leaves, with ciliate margins, are small, oval, and green. The flowers are large and shaded from deep, rich purple to lavender. The calyxes are carmine.

59479. RHODODENDRON sp.

Nos. 11006 (fruit), 9116 (flowers). October, 1923. A shrub 1 to 2 feet high found in the alpine region of Tsechung at an altitude of 13,000 feet. The oval, rich-green leaves are bluish beneath, and the flowers are a rich yellow.

59480. RHODODENDRON SEMNUM Balf. f. and Forrest.

Nos. 11007 (fruit), 9097 (flowers). October, 1923. A very handsome tree 15 to 18 feet high growing on the alpine slopes of Tsechung. The very large, glossy, obovate-oblong leaves are silvery gray beneath, and the flowers are shaded from white to pink.

59481. RHODODENDRON sp.

Nos. 11008 (fruit), 8830 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found in the alpine region of Tsechung at an altitude of 13,000 feet. The leaves, large and obovate-oblong, are subsessile and silver colored beneath. The purple flowers, tinged with pink, are produced in large umbels.

59482. RHODODENDRON SALUENENSE Franch.

Nos. 11010 (fruit), 9151 (flowers). October, 1923. A shrub 2 to 3 feet high found in the rocky alpine region of Tsechung at an altitude of 13,000 feet. The oval, dark-green leaves are pale brown beneath; the flowers are a rich purple and the calyx green.

59483. RHODODENDRON sp.

Nos. 11011 (fruit), 9092 (flowers). October, 1923. A shrub 1½ feet high found growing in masses in the alpine region of Tsechung at an altitude of 13,000 feet. The elliptical leaves are drab colored beneath, and the flowers are rich red.

59484. RHODODENDRON SALUENENSE Franch.

Nos. 11012 (fruit), 9282 (flowers). October, 1923. A shrub 1 to 2 feet high growing on the alpine slopes of Tsechung at an altitude of 13,000 feet. The oval leaves are green above and paler beneath, and the petioles are covered with brown hairs. The flowers are large, salver shaped, and deep purplish blue, with large, carmine calyxes.

59485. RHODODENDRON sp.

Nos. 11019 (fruit), 9141 (flowers). October, 1923. A shrub 1 to 2 feet high found on rocky alpine slopes of the Tsechung Mountains at an altitude of 13,000 feet. The leaves are small, oval, and dark brown beneath; the handsome, delicate-pink flowers are tubular.

59403 to 59642—Continued.

59486. RHODODENDRON sp.

Nos. 11020 (fruit), 9142 (flowers). October, 1923. A shrub 5 feet high growing in the alpine region of Tsechung at an altitude of 13,000 feet. The linear-lanceolate leaves are rufous red and woolly beneath. The white flowers are spotted with dark purple.

59487. RHODODENDRON sp.

Nos. 11022 (fruit), 9211 (flowers). October, 1923. A striking species 2 feet high growing in the alpine region of the Sila Pass, Mekong-Salwin Divide, at an altitude of 14,000 feet. The oval leaves are chalky white beneath, and the very large flowers are deep crimson.

59488. RHODODENDRON sp.

Nos. 11025 (fruit), 8739 (flowers). October, 1923. A shrub 4 to 5 feet high found in the Sila Pass, Mekong-Salwin Divide, at an altitude of 13,000 feet. The green, obovate leaves are golden yellow beneath, and the rich golden-yellow flowers are very large.

59489. RHODODENDRON FORRESTII Balf. f.

Nos. 11033 (fruit), 9234 (flowers). October, 1923. A prostrate plant, a few inches high, growing in the Sila Pass at an altitude of 13,000 feet. The small, oval, glabrous leaves are dark green above and deep purple beneath. The large flowers are rich carmine.

59490. RHODODENDRON sp.

Nos. 11035 (fruit), 8750 (flowers). October, 1923. A shrub 3 to 4 feet high found in the Sila Pass at an altitude of 12,000 feet. The obovate leaves are golden yellow to pale green beneath, and the very large, showy, yellow flowers have red lobes.

59491. RHODODENDRON sp.

Nos. 11036 (fruit), 9228 (flowers). October, 1923. A shrub 1 to 2 feet high found in the Sila Pass at an altitude of 12,000 feet. The oval leaves, prominently ribbed, are green on both sides, and the flowers are a deep purplish red.

59492. RHODODENDRON sp.

Nos. 11037 (fruit), 8751 (flowers). October, 1923. A shrub 3 to 4 feet high found in the Sila Pass at an altitude of 13,000 feet. The leaves are oblong, glabrous on both sides, and pale beneath; the flowers are pink and very large.

59493. RHODODENDRON sp.

Nos. 11039 (fruit), 9215 (flowers). October, 1923. A shrub 2 feet high found in the Sila Pass at an altitude of 13,000 feet. The small, elliptical leaves are drab colored beneath, and the broadly campanulate flowers are deep carmine.

59494. RHODODENDRON sp.

Nos. 11040 (fruit), 9201 (flowers). October, 1923. A shrub 5 feet high growing in the Sila Pass at an altitude of 12,000 feet. The obovate leaves are golden yellow beneath, and the large flowers are pinkish purple.

59495. RHODODENDRON FULVIDES Balf. f. and Forrest.

Nos. 11044 (fruit), 9222 (flowers). October, 1923. A tree 15 feet high found on the slopes of the Sila Pass at an altitude of 11,000 feet. The oblong, acute leaves are brown tomentose beneath, and the flowers are small and pink.

59496. RHODODENDRON sp.

Nos. 11046 (fruit), 9221 (flowers). October, 1923. A shrub 2 to 3 feet high growing in masses in the Sila Pass at an altitude of 13,000 feet. The linear-elliptical leaves are drab-gray beneath, and the flowers are a very rich carmine.

59403 to 59642—Continued.

59497. *RHODODENDRON FULVIDES* Balf. f. and Forrest.

Nos. 11048 (fruit), 8760 (flowers). October, 1923. A shrub 5 to 6 feet high found in the Sila Pass at an altitude of 13,000 feet. The oblong-obovate leaves are dark green above and dark to golden brown beneath. The flowers are a rich reddish purple.

59498. *RHODODENDRON* sp.

Nos. 11049 (fruit), 9210 (flowers). October, 1923. A shrub 2 feet high growing in masses in the Sila Pass at an altitude of 13,000 feet. The elliptical-obovate leaves are grayish brown beneath, and the flowers are deep carmine.

59499. *RHODODENDRON* sp.

Nos. 11051 (fruit), 9208 (flowers). October, 1923. A shrub 5 feet high found in the Sila Pass at an altitude of 12,000 feet. The leaves are small and obovate, and the flowers are yellow with a pinkish tinge.

59500. *RHODODENDRON* sp.

Nos. 11052 (fruit), 9206 (flowers). October, 1923. A shrub 2 feet high, growing in masses in the Sila Pass at an altitude of 13,000 feet. The elongated elliptical leaves are pale brown beneath, and the flowers are large and reddish purple.

59501. *RHODODENDRON* sp.

Nos. 11053 (fruit), 9229 (flowers). October, 1923. A shrub 5 feet high found in the Sila Pass at an altitude of 12,000 feet. The small, obovate leaves are golden yellow beneath, and the flowers are large and purplish red.

59502. *RHODODENDRON* sp.

Nos. 11058 (fruit), 9218 (flowers). October, 1923. A shrub 6 feet high growing in the Sila Pass at an altitude of 13,000 feet. The glabrous, oval leaves are green on both sides, and the flowers are cream colored with a pinkish tinge.

59503. *RHODODENDRON* sp.

Nos. 11060 (fruit), 9202 (flowers). October, 1923. A shrub 6 feet high found in the Sila Pass at an altitude of 12,000 feet. The obovate-oblong leaves are golden yellow to pale green beneath, and the flowers are small purplish pink.

59504. *RHODODENDRON* sp.

Nos. 11062 (fruit), 9239 (flowers). October, 1923. A shrub 6 feet high found in the Sila Pass. The glabrous oval leaves are pale green beneath, and the flowers are very large and pale pink.

59505. *RHODODENDRON* sp.

Nos. 11067 (fruit), 9236 (flowers). October, 1923. A shrub 5 feet high growing in the Sila Pass at an altitude of 12,000 feet. The glabrous, oval leaves are green on both sides; the flowers are yellow.

59506. *RHODODENDRON* sp.

Nos. 11071 (fruit), 8716 (flowers). October, 1923. A tree 12 to 20 feet high found on the lower slopes of the Tseku Mountains at an altitude of 11,000 feet. The oblong, acute leaves are dark brown tuberculate beneath, and the flowers are lavender, spotted with purple.

59507. *RHODODENDRON* sp.

Nos. 11075 (fruit), 8714 (flowers). October, 1923. A small tree 8 to 10 feet high found on the slopes of the Tseku Mountains at an altitude of 10,000 feet. The long, lanceolate leaves are dark, ashy gray beneath, and the flowers are deep pink.

59403 to 59642—Continued.

59508. *RHODODENDRON* sp.

Nos. 11079 (fruit), 8723 (flowers). October, 1923. A shrub 3 feet high found in the alpine region of Tseku at an altitude of 12,000 feet. The leaves are small, oval, and glabrous, and the small, yellow flowers are produced on long pedicels.

59509. *RHODODENDRON* sp.

Nos. 11086 (fruit), 9248 (flowers). November, 1923. A shrub 1 to 2 feet high found in alpine meadows of the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 14,000 to 15,000 feet. The very small, oval leaves are brown tomentose beneath, and the flowers are bluish purple.

59510. *RHODODENDRON* sp.

Nos. 11087 (fruit), 9942 (flowers). November, 1923. A shrub 5 feet high found in the alpine region of the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 15,000 feet. The oval, acute leaves are brown beneath.

59511. *RHODODENDRON* sp.

Nos. 11090 (fruit), 9242 (flowers). November, 1923. A shrub 6 feet high found in the alpine region of the Peima Mountains, Mekong-Yangtze Divide. The oval, acute leaves are brown tomentose beneath, and the flowers are pink with a purple tinge and spotted dark purple.

59512. *RHODODENDRON* sp.

Nos. 11095 (fruit), 8853 (flowers). November, 1923. A shrub 4 feet high found in the alpine region of the Peima Mountains at an altitude of 14,000 feet. The oval leaves are green on both sides, and the flowers are purple.

59513. *RHODODENDRON* sp.

Nos. 11098 (fruit), 9268 (flowers). November, 1923. A shrub 1 foot high found in the high alpine region of the Peima Mountains at an altitude of 14,000 feet. The acute elliptical leaves, half an inch long, are a silky brown beneath. The flowers are deep indigo shading to lighter blue.

59514. *RHODODENDRON* sp.

Nos. 11100 (fruit), 8858 (flowers). November, 1923. A shrub 4 to 5 feet high found in the Peima Mountains at an altitude of 13,000 feet. The oval, acute leaves are brown tomentose beneath, and the flowers are purple but paler toward the base.

59515. *RHODODENDRON* sp.

Nos. 11101 (fruit), 9973 (flowers). November, 1923. A tree 8 to 10 feet high found in the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 14,000 feet. The leaves are elliptical, acute at both ends, and brown tomentose beneath. The flowers are white.

59516. *RHODODENDRON* sp.

Nos. 11102 (fruit), 8856 (flowers). November, 1923. A shrub 4 to 5 feet high, similar to No. 11101 [S. P. I. No. 59515], but having pink flowers; found in the Peima Mountains at an altitude of 14,000 feet.

59517. *RHODODENDRON* sp.

Nos. 11103 (fruit), 8852 (flowers). November, 1923. A shrub 3 feet high found in the Peima Mountains at an altitude of 13,000 to 14,000 feet. The ovate-elliptical, acute leaves are brown tomentose beneath, and the flowers shade from white to purple.

59518. *RHODODENDRON* sp.

Nos. 11104 (fruit), 8862 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at an altitude of 13,000 feet. The elliptical-oblong leaves are fawn-colored tomentose beneath, and the flowers are white with a pinkish tinge.

59403 to 59642—Continued.

59519. RHODODENDRON sp.

Nos. 11105 (fruit), 9273 (flowers). November, 1923. A shrub 10 feet high found in the alpine regions of the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 14,000 feet. The linear-oblong, rich-green leaves are pale brown tomentose beneath, and the flowers are white.

59520. RHODODENDRON sp.

Nos. 11107 (fruit), 8854 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at an altitude of 14,000 feet. Leaves the same as No. 11106 [S. P. I. No. 59135], and the flowers are pink.

59521. RHODODENDRON sp.

Nos. 11108 (fruit), 9267 (flowers). November, 1923. A shrub 10 feet high found in the Peima Mountains at an altitude of 13,000 feet. The oval-elliptical leaves are brown tomentose beneath, and the flowers are white spotted with purple.

59522. RHODODENDRON sp.

Nos. 11113 (fruit), 8925 (flowers). November, 1923. A shrub 5 feet high found in the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 13,000 feet. The linear-lanceolate, leathery leaves are deep rufous tomentose beneath. The flowers are large and white.

59523. RHODODENDRON sp.

Nos. 11114 (fruit), 9252 (flowers). November, 1923. A shrub 5 to 10 feet high found on the slopes of the Peima Mountains at an altitude of 13,000 feet. The ovate leaves on long petioles are subcordate at the base, and the large bright-yellow flowers are produced in large umbels.

59524. RHODODENDRON sp.

Nos. 11115 (fruit), 9939 (flowers). November, 1923. A shrub 3 to 4 feet high found in the Peima Mountains at an altitude of 14,000 feet. The long, linear-lanceolate, leathery leaves are deep green above and densely covered beneath with rufous wool. The flowers are white.

59525. RHODODENDRON sp.

Nos. 11138 (fruit), 8703 (flowers). November, 1923. A shrub 6 to 8 feet high found in the alpine meadows of Litiping at an altitude of 12,000 feet. The oblong, acute leaves are green on both sides, and the flowers are deep red.

59526. RHODODENDRON sp.

Nos. 11145 (fruit), 8956 (flowers). November, 1923. A small tree 8 to 10 feet high found in the mountains of Anwa (Mekong Valley). The leaves are large, obovate, and cordate, and the flowers are rich white.

59527. RHODODENDRON sp.

Nos. 11149 (fruit), 9326 (flowers). November, 1923. A shrub 6 feet high found in the Moting Mountains northeast of Atuntze at an altitude of 14,000 feet. The oblong-lanceolate leaves are brown tomentose beneath, and the flowers are pale pink spotted with purple.

59528. RHODODENDRON sp.

Nos. 11150 (fruit), 9317 (flowers). November, 1923. A shrub 5 feet high found in the Moting Mountains northeast of Atuntze. The ovate-oblong leaves are densely matted beneath and pale yellow tomentose; the flowers are rich purplish red, spotted with dark purple.

59529. RHODODENDRON sp.

No. 11151. Moting Mountains, Mekong-Yangtze Divide. November, 1923. A small tree 8 feet high growing at an altitude of 14,000 feet. The oblong leaves are densely matted beneath with pale tomentum; the flowers are pinkish white.

59403 to 59642—Continued.

59530. RHODODENDRON sp.

Nos. 11152 (fruit), 9320 (flowers). October, 1923. A shrub 5 feet high found on alpine altitude of 13,000 feet. The leaves are green, and glabrous, and the large rich red flowers are borne in large umbels.

59531. RHODODENDRON sp.

Nos. 11153 (fruit), 9313 (flowers). Moting Mountains, Mekong-Yangtze Divide. November, 1923. A tree 13 to 15 feet high with large, oblong leaves, densely matted beneath with pale-yellow, glossy tomentum; the flowers are pink.

59532. RHODODENDRON sp.

Nos. 11155 (fruit), 10104 (flowers). Champu-tong, Salwin-Irrawaddy Divide. November, 1923. A shrub 5 feet high growing at an altitude of 12,000 feet. The obovate-oblong leaves have a peculiar brown, flaky tomentum. The flowers are red.

59533. RHODODENDRON sp.

Nos. 11156 (fruit), 10211 (flowers). Champu-tong, Salwin-Irrawaddy Divide. October, 1923. The obovate-oblong, dark-green leaves are chocolate-brown tomentose beneath. The very large flowers are rich carmine.

59534. RHODODENDRON sp.

Nos. 11159 (fruit), 10128 (flowers). Champu-tong, Mount Kenichunpu. October, 1923. A tree 12 to 15 feet high growing at an altitude of 12,000 feet. The large, obovate-oblong rounded leaves are covered beneath with tomentum shaded from fawn to red. The flowers are yellowish red.

59535. RHODODENDRON sp.

Nos. 11160 (fruit), 10176 (flowers). October, 1923. A shrub 6 inches high found in the alpine regions of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 14,000 feet. The small, elliptical, glabrous leaves are glaucous beneath, and the flowers, drooping on long erect pedicels, are red with a glaucous tinge.

59536. RHODODENDRON sp.

Nos. 11162 (fruit), 10142 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. November, 1923. A shrub 5 to 6 feet high found at an altitude of 13,000 feet. The obovate-oblong, green leaves are dark rough squamous tomentose beneath. The flowers are red.

59537. RHODODENDRON CRASSUM Franch.

Nos. 11166 (fruit), 10168 (flowers). October, 1923. A small tree 6 to 8 feet high found on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 11,000 feet. The large, oblong-elliptical leaves are brownish, glabrous, and punctate beneath. The flowers are white.

59538. RHODODENDRON FULVIDES Balf. f. and Forrest.

Nos. 11168 (fruit), 10214 (flowers). Champu-tong, Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree 15 feet high found at an altitude of 12,000 feet. The large, oblong, pale-brown leaves are thinly tomentose beneath. The flowers are red.

59539. RHODODENDRON sp.

Nos. 11170 (fruit), 10257 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 3 to 4 feet high found at an altitude of 13,000 feet. The small, spatulate leaves, greenish beneath, have squamously brown tomentose veins.

59403 to 59642—Continued.

59497.

For RHODODENDRON sp.

Nos. 11172 (fruit), 10194 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 2 to 3 feet high found at an altitude of 13,000 feet. The elliptical leaves, glaucous beneath, are tuberculate, and the flowers are small and yellow.

59541. RHODODENDRON sp.

Nos. 11174 (fruit), 10127 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree 18 feet high with oblong, glabrous leaves, acute at both ends, and silvery to golden yellow beneath. The flowers are white and fragrant.

59542. RHODODENDRON sp.

Nos. 11184 (fruit), 10131 (flowers). October, 1923. A shrub 5 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The obovate-elliptical leaves have hirsute bases and petioles and are chocolate-colored tomentose beneath. The flowers are red.

59543. RHODODENDRON sp.

Nos. 11185 (fruit), 10155 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A very robust plant 10 feet high with obovate-oval, oblong, large leaves which are rich-brown tomentose beneath and dark green above. The flowers are red.

59544. RHODODENDRON sp.

Nos. 11187 (fruit), 10221 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree 16 to 20 feet high found at an altitude of 13,000 feet. The large, obovate-oblong, dark-green leaves are deep reddish brown tomentose beneath, and the flowers are red.

59545. RHODODENDRON sp.

Nos. 11194 (fruit), 10146 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A small tree 8 feet high found at an altitude of 13,000 feet. The oval-oblong, acute leaves are yellowish brown to olive-green pubescent beneath and have yellow hirsute petioles. The flowers are pink.

59546. RHODODENDRON sp.

Nos. 11199 (fruit), 10099 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 2 feet high growing at an altitude of 13,000 feet. The spatulate leaves are drab colored beneath, and the flowers are yellowish red.

59547. RHODODENDRON sp.

Nos. 11200 (fruit), 10138 (flowers). October, 1923. A tree 18 to 20 feet high found in the forests of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 11,000 feet. The leaves are oblong acute, green, and glabrous, and the red flowers are produced on long pedicels.

59548. RHODODENDRON sp.

Nos. 11204 (fruit), 10121 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 4 to 5 feet high found at an altitude of 13,000 feet. The ovate-obovate leaves are dark-brown, densely squamately tomentose beneath. The flowers are red.

59549. RHODODENDRON sp.

Nos. 11206 (fruit), 10173 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 2 feet high, growing at an altitude of 13,000 feet. The oval-elliptical leaves are chocolate brown tomentose beneath, and the flowers are orange-red.

59403 to 59642—Continued.

59550. RHODODENDRON sp.

Nos. 11207 (fruit), 10119 (flowers). October, 1923. A tree 16 to 18 feet high growing on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 12,000 to 13,000 feet. The large, obovate-oblong leaves are deep brown to carmine tomentose beneath, and the flowers are red.

59551. RHODODENDRON sp.

No. 11209. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 7 feet high found at an altitude of 13,000 feet. The ovate leaves, subcordate at the base, are glaucous and green beneath.

59552. RHODODENDRON sp.

No. 11210. Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 3½ feet high growing at an altitude of 13,000 feet. The oval leaves are densely matted and brown beneath, and the flowers are yellow.

59553. RHODODENDRON sp.

No. 11212. Kenichunpu, Salwin-Irrawaddy Divide, October, 1923. A shrub 2 feet high found at an altitude of 13,000 feet. The leaves are dark purplish gray tomentose beneath.

59554. RHODODENDRON sp.

No. 11213. October, 1923. A shrub 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oval-oblong leaves are faintly brown tomentose and subglabrous beneath, and the petioles are hirsute.

59555. RHODODENDRON sp.

No. 11216. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 3 feet high found at an altitude of 13,000 feet. The elliptical-ovate leaves are pale glaucous and brown beneath, and the flowers are red.

59556. RHODODENDRON sp.

No. 11217. October, 1923. A shrub or small tree 15 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oblong, acute, glabrous leaves are green on both sides.

59557. RHODODENDRON MEGACALYX Balf. f. and Ward.

No. 11222. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 6 feet high found on rocky slopes at an altitude of 13,000 feet. The large, oblong leaves are greenish gray and glabrous beneath, and the veins are rufous tomentose. The flowers are white.

59558. RHODODENDRON sp.

No. 11223. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub or small tree 15 feet high found at an altitude of 13,000 feet. The large leaves are covered with a brown wool underneath.

59559. RHODODENDRON FULVIDES Balf. f. and Forrest.

No. 11225. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree or shrub 6 to 8 feet high found at an altitude of 13,000 feet. The oblong leaves are yellowish brown floccose beneath.

59560. RHODODENDRON sp.

No. 11227. October, 1923. A shrub 4 feet high growing on Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The large, obovate leaves are chocolate-colored tomentose beneath, and the flowers are red.

59403 to 59642—Continued.

59561. *RHODODENDRON SINONUTTALLII* Balf. f. and Forrest.

Nos. 11233 (fruit), 10130 (flowers). October, 1923. A tree 8 to 10 feet high growing on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 11,000 feet. The large, leathery leaves, prominently veined, are deeply impressed above and brownish gray and punctate beneath. The very large flowers, 3 inches in diameter, are yellow to cream colored. The fruits are enormous.

59562. *RHODODENDRON* sp.

No. 11240. October, 1923. A shrub or small tree 6 feet high growing in Sila among firs at an altitude of 13,000 feet. The oblong-acute leaves are grayish brown tomentose beneath.

59563. *RHODODENDRON* sp.

No. 11242. October, 1923. A tree 20 feet high found on Mount Lautchun west of Likiang at an altitude of 11,000 feet. The large, oblong leaves are densely covered with brown wool beneath. The large flowers are white.

59564. *RHODODENDRON* sp.

No. 11243. Mount Lautchun. October, 1923. A shrub 1½ feet high found at an altitude of 12,000 feet. The small, elliptical leaves are punctate beneath, and the flowers are small and a deep indigo blue.

59565. *RHODODENDRON* sp.

Nos. 11244 (fruit), 8394 (flowers). Mount Lautchun. October, 1923. A tree 24 feet high found in fir forests at an altitude of 11,000 feet. The oblong leaves are covered with a brown wool beneath, and the flowers are large and white.

59566. *RHODODENDRON* sp.

No. 11246. Mount Lautchun. October, 1923. A tree 10 feet high found in fir forests at an altitude of 12,000 feet. The elliptical, acute leaves are yellow brown tomentose beneath. The flowers are white.

59567. *RHODODENDRON* sp.

Nos. 11247 (fruit), 9585 (flowers). Mount Lautchun. October, 1923. A shrub 5 to 6 feet high found at an altitude of 12,000 feet. The leaves are obovate, subcordate, and glabrous, and the flowers are cream colored to yellow with a pinkish tinge.

59568. *RHODODENDRON* sp.

No. 11248. Mount Lautchun. October, 1923. A shrub 5 feet high found in fir forests at an altitude of 12,000 feet. The oblong, acute leaves are green and glabrous on both sides and the flowers are pink.

59569. *RHODODENDRON* sp.

No. 11249. Mount Lautchun. October, 1923. A shrub 1 to 2 feet high found at an altitude of 13,000 feet and having very small, elliptical leaves, brown tomentose beneath, and small, deep blue-purple flowers.

59570. *RHODODENDRON* sp.

Nos. 11250 (fruit), 8422 (flowers). October, 1923. A shrub 5 feet high found in fir forests on Mount Lautchun at an altitude of 12,000 feet. The linear-lanceolate leaves are deep rufous woolly beneath, and the flowers are pink spotted with purple, making them very handsome.

59571. *RHODODENDRON* sp.

Nos. 11251 (fruit), 8400 (flowers). October, 1923. A shrub 4 feet high found in the alpine regions of Mount Lautchun, at an altitude of 12,000 feet. The elliptical, dark-green leaves are reticulate above and rufous woolly beneath. The flowers are pink.

59403 to 59642—Continued.

59572. *RHODODENDRON* sp.

No. 11253. October, 1923. A shrub 8 feet high growing on Mount Lautchun, at an altitude of 13,000 feet. The small, linear-elliptical leaves are deeply rufous beneath, and the flowers are white.

59573. *RHODODENDRON* sp.

Nos. 11255 (fruit), 8381 (flowers). Mount Lautchun. October, 1923. A shrub or tree 18 feet high growing at an altitude of 12,000 feet. The large, oval, subcordate leaves are densely matted with brown wool, and the flowers are white to pink.

59574. *RHODODENDRON* sp.

No. 11257. October, 1923. A tree 15 to 18 feet high found in mixed forests on the slopes of Mount Lautchun at an altitude of 10,000 feet. The large, oblong, glabrous leaves are pale grayish green beneath. The flowers are red to purple.

59575. *RHODODENDRON* sp.

No. 11261. October, 1923. A shrub 5 feet high growing on the slopes of Mount Lautchun at an altitude of 10,000 feet. The leaves are linear-oblong and are covered beneath with a deep rufous wool. The flowers are pink.

59576. *RHODODENDRON* sp.

No. 11262. October, 1923. A shrub 3 feet high growing at an altitude of 10,000 feet in fir forests on Mount Lautchun. The leaves are small, oval, glabrous, and grayish purple beneath. The flowers are pink.

59577. *RHODODENDRON RACEMOSUM* Franch.

No. 11264. October, 1923. A handsome species 3 feet high growing at the foot of Mount Lautchun at an altitude of 8,000 to 9,000 feet. The small, elliptical-oval leaves are pale pink to white beneath, and the flowers are pink.

59578. *RHODODENDRON RACEMOSUM* Franch.

Nos. 11265 (fruit), 8404 (flowers). October, 1923. A shrub 2 to 3 feet high growing at the foot of Mount Lautchun at an altitude of 8,000 to 9,000 feet. The oval leaves, white beneath, are black punctate. The large white flowers are very striking.

59579. *RHODODENDRON* sp.

Nos. 11266 (fruit), 8392 (flowers). October, 1923. A shrub 6 feet high growing on the slopes of Mount Lautchun at an altitude of 9,000 feet. The leaves are oval, acute, coriaceous, pale green, and glabrous on both sides; the flowers are large and pure white spotted with purple.

59580. *RHODODENDRON* sp.

Nos. 11268 (fruit), 9596 (flowers). October, 1923. A shrub 4 feet high growing at the foot of Mount Lautchun at an altitude of 8,000 feet. The small, oval, acute leaves are glaucous and glabrous beneath, and the flowers are white.

59581. *RHODODENDRON* sp.

Nos. 11273 (fruit), 8430 (flowers). October, 1923. A tree 25 feet high found among rocks in the alpine regions of Mount Shenzi at an altitude of 10,000 feet. The oblong-acute leaves are glaucous and glabrous on both sides, and the flowers are white.

59582. *RHODODENDRON* sp.

Nos. 11274 (fruit), 9505 (flowers). October, 1923. A tree 15 to 18 feet high growing in mixed forests on Mount Shenzi at an altitude of 10,000 feet. The oblong, acute leaves are coriaceous, glaucous, and glabrous, and have undulate margins. The flowers are white.

59403 to 59642—Continued.

59583. RHODODENDRON sp.

Nos. 11277 (fruit), 8426 (flowers). October, 1923. An exceedingly handsome species 2 to 3 feet high found among limestone boulders on Mount Shenzi at an altitude of 13,000 feet. The oval, acute leaves have impressed veins above and are densely matted beneath with rough cottony tomentum. The flowers are very large and pink.

59584. RHODODENDRON sp.

No. 11279. October, 1923. A tree 10 feet high growing on the slopes of Mount Shenzi at an altitude of 10,000 feet. The oblong, acute leaves are glabrous and pale brown beneath, and the flowers are red.

59585. RHODODENDRON sp.

Nos. 11281 (fruit), 8437 (flowers). October, 1923. A shrub 4 feet high growing among rocks in Labako, at an altitude of 9,000 feet. The leaves, lanceolate-oval and acute at both ends, are glabrous and glaucous beneath. The flowers are large and white spotted with purple.

59586. RHODODENDRON sp.

No. 11282. October, 1923. A shrub 8 feet high growing among rocks in the forests of Labako at an altitude of 9,000 feet. The oblong, acute, dull-green leaves, pale brownish green beneath, are strongly veined.

59587. RHODODENDRON sp.

Nos. 11284 (fruit), 9523 (flowers). October, 1923. A shrub 3 feet high found in the alpine meadows of Labako at an altitude of 14,000 feet. The small, elliptical leaves are dotted with brown beneath, and the flowers are lavender-blue.

59588. RHODODENDRON sp.

No. 11286. October, 1923. A tree 15 feet high found in fir forests on the mountains of Labako at an altitude of 12,000 feet. The obovate-oblong leaves are densely covered beneath with rough brown tomentum, and the flowers are large and pink.

59589. RHODODENDRON sp.

Nos. 11292 (fruit), 8446 (flowers). October, 1923. An exceedingly handsome species growing 6 to 8 feet high among rocks in the alpine region of Labako at an altitude of 13,000 feet. The narrow, linear, needle-shaped leaves are covered beneath with deep-red wool. The flowers are pink, spotted with purple.

59590. RHODODENDRON sp.

No. 11293. Labako. October, 1923. A shrub 6 feet high found in the alpine region at an altitude of 13,000 feet. The leaves are linear lanceolate and needle shaped and are covered beneath with a rufous wool. The flowers are white.

59591. RHODODENDRON sp.

No. 11298. October, 1923. A shrub 5 feet high found in the alpine region of Labako at an altitude of 9,000 feet. The orbicular-oval cordate leaves are glaucous purple beneath, and the flowers are red.

59592. RHODODENDRON sp.

Nos. 11299 (fruit), 8474 (flowers). Labako. October, 1923. A shrub 4 to 5 feet high found along stream beds in mixed forests at an altitude of 10,000 feet. The narrow, elliptical leaves are pale green above and pale gray-green beneath. The flowers are handsome yellow.

59403 to 59642—Continued.

59593. RHODODENDRON sp.

Nos. 11300 (fruit), 9511 (flowers). October, 1923. A shrub 7 to 8 feet high found in forests on the slopes of Mount Kintze at an altitude of 10,000 feet. The elliptical, acute leaves are brownish green and glabrous beneath. The flowers are purple.

59594. RHODODENDRON sp.

Nos. 11302 (fruit), 9499 (flowers). October, 1923. A shrub 7 to 8 feet high found on the alpine slopes of Mount Kintze at an altitude of 13,000 feet. The narrow, linear leaves are rufous woolly beneath, and the flowers are white.

59595. RHODODENDRON sp.

Nos. 11309 (fruit), 9478 (flowers). October, 1923. A shrub 6 feet high growing on the rocky alpine slopes of Mount Kintze at an altitude of 13,000 feet. The elliptical, acute leaves are densely covered with rufous wool beneath, and the flowers are white.

59596. RHODODENDRON sp.

Nos. 11317 (fruit), 8702 (flowers). October, 1923. A shrub 6 to 8 feet high found in the alpine meadows of Litiping, Mekong-Yangtze Divide. The rich-green leaves are oval-elliptical and acute at both ends. The flowers are lavender.

59597. RHODODENDRON sp.

Nos. 11318 (fruit), 9194 (flowers). October, 1923. A shrub 3 feet high growing in the swampy, alpine meadows of Litiping at an altitude of 12,000 feet. The elliptical leaves are covered beneath with a bronze-colored pubescence. The flowers are deep bluish purple.

59598. RHODODENDRON sp.

No. 11319. October, 1923. A shrub 1 to 2 feet high growing in the swampy alpine meadows of Litiping at an altitude of 12,000 feet. The very small, oval-elliptical leaves are bronze-colored tomentose beneath, and the flowers are rich blue.

59599. RHODODENDRON sp.

Nos. 11328 (fruit), 9749 (flowers). Peima Mountains. November, 1923. A shrub 3 to 4 feet high found at an altitude of 13,000 feet. The oval, glabrous leaves, rounded at both ends, are pale green beneath, and the flowers are pinkish white with deep-purple markings.

59600. RHODODENDRON sp.

No. 11329. November, 1923. A shrub 7 to 8 feet high found on the alpine slopes of the Peima Mountains at an altitude of 13,000 feet. The oval-elliptical leaves are pale, or dark brown, soft tomentose beneath.

59601. RHODODENDRON ARALIAEFORME Balf. f. and Forrest.

Nos. 11331 (fruit), 10359 (flowers). Atuntze Mountains. November, 1923. A shrub 5 to 6 feet high found at an altitude of 11,500 feet. The oval, glabrous leaves are pale yellow beneath.

59602. RHODODENDRON sp.

No. 11333. November, 1923. A shrub 8 to 10 feet high growing on the alpine slopes of Mount Peima at an altitude of 15,000 feet. The large, ovate-oblong leaves are a rich golden brown, soft tomentose beneath.

59403 to 59642—Continued.

59603. RHODODENDRON sp.

No. 11334. November, 1923. A tree 10 to 15 feet high found on the high passes east of Atuntze, Mount Motung, at an altitude of 13,000 feet. The very large, oblong-acute leaves are pale silvery to pale brown beneath.

59604. RHODODENDRON sp.

No. 11336. Mount Motung. November, 1923. A shrub 4 feet high growing at an altitude of 14,000 feet. The oblong leaves, with the margins folded inward, are pale brown, farinaceous tomentose beneath.

59605. RHODODENDRON sp.

No. 11337. November, 1923. A shrub 6 to 10 feet high found in the passes of Mount Motung at an altitude of 14,000 feet. The large, oblong leaves, acute at both ends, have deciduous, rich-brown tomentum beneath.

59606. RHODODENDRON sp.

No. 11338. November, 1923. A shrub 5 to 6 feet high growing on the alpine slopes of Mount Peima at an altitude of 14,000 to 15,000 feet. The oval, acute leaves are covered beneath with a brown, flaky tomentum.

59607. RHODODENDRON sp.

No. 11339. Mount Peima. November, 1923. A shrub 4 feet high growing on alpine slopes at an altitude of 14,000 to 15,000 feet. The elliptical-oblong leaves, with infolded margins, are pale-yellow tomentose beneath.

59608. RHODODENDRON sp.

No. 11340. A shrub growing on Mount Peima at an altitude of 14,000 to 15,000 feet.

For description, see S. P. I. No. 59607.

59609. RHODODENDRON sp.

No. 11343. Mount Motung. November, 1923. A shrub 5 to 8 feet high growing at an altitude of 14,000 to 15,000 feet. The leaves are oblong, acute, with deciduous tomentum beneath.

59610. RHODODENDRON sp.

No. 11345 (fruit), 9334 (flowers). November, 1923. A shrub 6 feet high growing on the alpine slopes of Mount Motung at an altitude of 14,000 to 15,000 feet. The broadly obovate-oblong, blunt leaves are covered beneath with deciduous flaky tomentum. The flowers are pink.

59611. RHODODENDRON sp.

No. 11346 (fruit), 1975 (flowers). Litiping, Mekong-Yangtze Divide. November, 1923. A shrub 12 feet high growing at an altitude of 12,000 feet. The long, linear-oblong, acute leaves are pale green and glabrous beneath. The flowers are pink.

59612. RHODODENDRON sp.

No. 11349. November, 1923. A shrub 5 to 6 feet high growing on the summit of Shund-sangtu, Mekong-Salwin Divide, at an altitude of 13,000 feet. The obovate-oblong, acute leaves are dull green above and brownish beneath.

59613. RHODODENDRON sp.

No. 11352. November, 1923. A shrub or tree up to 20 feet high growing in masses on the slopes of Mount Peima, Mekong-Yangtze Divide, at an altitude of 15,000 feet. The large, oval, acute leaves are covered beneath with a silky, bronze-colored tomentum.

59614. RHODODENDRON sp.

No. 11357. December, 1923. A tree 15 to 20 feet high found in mixed forests on the slopes of Pongela, Yangtze Divide, at an altitude of 11,000 feet. The leaves are oblong, acute, both sides being glossy green and glabrous. The flowers and fruits are red.

59403 to 59642—Continued.

59615. RHODODENDRON sp.

Nos. 11363 (fruit), 8527 (flowers). Haraku, Likang Snow Range. November, 1923. A shrub 3 feet high found in swampy meadows at an altitude of 11,000 feet. The small, elliptical-elongate leaves are pale yellow beneath, and the flowers are rich blue.

59616. RHODODENDRON sp.

No. 11365 (fruit), 8495 (flowers). Haraku, Likang Snow Range. November, 1923. A shrub 2 to 3 feet high found at an altitude of 11,000 feet. The small, narrow, elliptical leaves are pale beneath, and the flowers are dark purplish blue.

59617. RHODODENDRON sp.

No. 11367 (fruit), 8510 (flowers). Likang Snow Range. November, 1923. A stiff-branched shrub 5 to 6 feet high found at an altitude of 11,000 feet. The leaves are oblong and leathery and are matted beneath with a pale wool. The flowers are large and white dotted with red.

59618. RHODODENDRON sp.

No. 11371 (fruit), 8499 (flowers). November, 1923. A shrub 5 to 8 feet high found on the slopes of the Likang Snow Range at an altitude of 13,000 feet. The large, oblong leaves are dark green above and pale-yellow tomentose beneath. The flowers are white with a pinkish tinge.

59619. RHODODENDRON sp.

No. 11373 (fruit), 8496 (flowers). November, 1923. A shrub 6 to 8 feet high growing on the alpine slopes of the Likang Snow Range at an altitude of 14,000 feet. The oval-oblong leaves are white to cream-colored tomentose beneath. The flowers are large and white.

59620. RHODODENDRON sp.

No. 11381 (fruit), 8283 (flowers). November, 1923. A shrub 12 to 15 feet high found on the Sungkwe Pass at an altitude of 10,000 feet. The large, elliptical-oblong glabrous leaves, uniformly green, are strongly veined beneath. The flowers are pinkish white.

59621. RHODODENDRON sp.

No. 11383 (fruit), 8259 (flowers). November, 1923. A tree 20 feet high found on the Sungkwe Pass south of Likang, at an altitude of 11,000 feet. The broadly oval to obovate leaves are covered beneath with a faintly brown tomentum. The flowers are large and rich pink.

59622. RHODODENDRON sp.

No. 11389 (fruit), 8965 (flowers). November, 1923. A shrub 6 feet high found in the alpine meadows of Litiping, Mekong-Yangtze Divide, at an altitude of 12,000 feet. The leaves are ovate and pale yellow and glaucous beneath. The flowers are rich yellow.

59623. RHODODENDRON NIPHARGUM Balf. f. and Ward.

Nos. 11391 (fruit), 8360 (flowers). Heshwe Road. October, 1923. A small tree 12 to 15 feet high found along stream beds in mixed forests (Tsuga predominant) on the western slopes of the Likang Snow Range at an altitude of 10,000 to 11,000 feet. The large, oblong-obovate leaves, with prominent veins, are silvery gray underneath. The flowers are pink.

59624. RHODODENDRON sp.

No. 11397. November, 1923. A tree 25 feet high growing in Ganhaizte on the western slopes of the Likang Snow Range at an altitude of 12,000 feet. The large, oblong leaves are dark green and glossy above and densely rufous brown beneath. The flowers are white.

59403 to 59642—Continued.

59625. RHODODENDRON sp.

No. 11408 (fruit), 8223 (flowers). Saba, Likiang Snow Range. November, 1923. One of the finest species, 15 to 20 feet high, found in larch forests at an altitude of 11,000 to 11,500 feet. The oval, acute, subcordate leaves are glabrous on both sides and pale beneath. The large, pink flowers, produced in large corymbs, are faintly fragrant.

59626. RHODODENDRON sp.

No. 11418. November, 1923. A shrub 3 feet high growing in pine forests of the Likiang Snow Range at an altitude of 10,000 to 11,000 feet. The elliptical-oval, green leaves are glabrous on both sides, and the large, purple-lavender flowers are produced on slender pedicels.

59627. RHODODENDRON sp.

No. 11429. November, 1923. A handsome species 6 feet high growing on the alpine slopes among rocks on the Likiang Snow Range at an altitude of 14,000 feet. The oval, glabrous leaves are dotted beneath, and the petioles and stems are carmine purple. The flowers are large and red.

59628. RHODODENDRON sp.

No. 11452. November, 1923. A tree 8 to 10 feet high found in the Sungkwe Mountains, south of Likiang, at an altitude of 11,000 feet. The oblong-ovate leaves are densely covered beneath with cinnamon-brown tomentum. The flowers are large and white.

59629. RHODODENDRON sp.

No. 11453. November, 1923. A shrub 8 feet high found on the Sungkwe Mountains south of Likiang at an altitude of 11,000 feet. The oblong, acute, aromatic leaves are green on both sides but dotted with brown beneath. The flowers are pale pink.

59630. RHODODENDRON sp.

No. 11454. Sungkwe Mountains. November, 1923. A shrub 8 feet high found at an altitude of 11,000 feet. The leaves are coriaceous and pale yellow beneath. The flowers are large and white.

59631. RHODODENDRON sp.

No. 11455. Sungkwe Mountains, south of Likiang. November, 1923. An aromatic shrub 1 to 3 feet high found among rocks at an altitude of 11,000 feet. The small, elliptical leaves are covered with pale-brown pubescence beneath, and the flowers are white.

59632. RHODODENDRON sp.

No. 11460. November, 1923. A shrub 10 feet high growing on the alpine slopes of the Likiang Snow Range at an altitude of 13,000 feet. The very large, oblong leaves are glossy green above and cinnamon brown beneath. The flowers are large and produced in large corymbs.

59633. RHODODENDRON sp.

No. 11461. November, 1923. A shrub 5 feet high found on the alpine slopes of the Likiang Snow Range at an altitude of 14,000 feet. The oval, acute, white to cream-colored leaves are faintly pubescent. The flowers are large and white.

59634. RHODODENDRON sp.

No. 11468. November, 1923. A shrub 2 feet high growing on the alpine, rocky slopes of the Likiang Snow Range at an altitude of 14,000 feet. The oval leaves are brown beneath; the flowers are white, tubular, and fragrant.

59403 to 59642—Continued.

59635. RHODODENDRON sp.

No. 11470. November, 1923. A tree 15 feet high found in fir forests on the alpine slopes of the Likiang Snow Range at an altitude of 14,500 feet. The oblong, acute leaves are pale tomentose beneath, and the flowers are white.

59636. RHODODENDRON sp.

No. 11471. November, 1923. A shrub 3 to 4 feet high found in fir forests on the alpine slopes of the Likiang Snow Range at an altitude of 14,500 feet. The leaves are oblong acute and are covered beneath with pale-brown tomentum. The flowers are large and pink.

59637. RHODODENDRON sp.

No. 11473. November, 1923. A shrub 4 feet high found on the alpine slopes of the Likiang Snow Range at an altitude of 14,000 feet. The oblong-ovate leaves are pale brown silky beneath. The flowers are white.

59638. RHODODENDRON RACEMOSUM Franch.

No. 11476. November, 1923. A shrub 1½ feet high growing with pines on the dry, rocky limestone range opposite the Likiang Snow Range. The leaves are oval and dotted with gray beneath. The flowers are small and red.

59639. ROSA sp. Rosaceae. Rose.

No. 11218. October, 1923. A climber growing in the Salwin Valley, Champutong, at an altitude of 7,000 feet. The flowers, 2 inches in diameter, are rich red.

59640. SCABIOSA sp. Dipsacaceae.

No. 11406. November, 1923. A herb, found in alpine meadows at Saba, Likiang Snow Range, at an altitude of 11,000 feet, with a rosette of lanceolate leaves and small flowers produced in drooping, white, globose heads on long peduncles.

59641. SOPHORA DAVIDII (Franch.) Komorov
(*S. viciifolia* Hance). Fabaceae.

December, 1923. A spiny shrub, which is a prolific fruiter, 6 to 10 feet high, most common in the arid region of the Mekong, north of Yangtze, and in the Atuntze Valley, at an altitude of 8,000 to 10,000 feet. The leaves are small. This shrub forms the sole food for goats and sheep of this region.

59642. (Undetermined.)

No. 11009. October, 1923. A plant 2 to 3 feet high found in the alpine meadows of Tsehchung. The flowers are yellow and have greenish veins.

59643 to 59648.

From Soledad, Cienfuegos, Cuba. Cuttings collected by David Fairchild, Bureau of Plant Industry. Received April 7, 1924. Quoted notes by Doctor Fairchild.

This collection was made at the Cuban Gardens, maintained by Harvard University.

59643. ANTIGONON GUATEMALENSE Meisn. Polygonaceae.

"The globular heads of this plant appear to be a deeper red than those of the ordinary type. Since the typical form is one of the most desirable climbers in Florida, this should be grown there for comparison with the common type."

59644. HIBISCUS ROSA-SINENSIS L. Malvaceae.

"Var. *Hedda*. An attractive single, pure-white variety."

59645 and 59646. MANGIFERA INDICA L. Anacardiaceae. Mango.

59643 to 59648—Continued.

59645. "Mulgo-fil. Originated by H. A. Van Hermann, at Finca Mulgoba, Rancho Boyeros, Cuba, about 1917, by crossing the Mulgoba and the 'Philippine' mango. The fruit is pink, yellow, and red, resembling the Mulgoba, but with the long, flat shape of the Philippine variety, with a depression on one side. The fruits are borne in clusters. The seed is flat, and the quality of the flesh good. The name, applied by Mr. Van Hermann, indicates the hybrid origin of the variety."

59646. Van Hermann. An improved Chinese mango discovered by Mr. Van Hermann. Unlike most other varieties it does not harbor the black fly, because of its open habit of growth and comparatively scanty foliage. Furthermore, the fruits do not spot with Colletotrichum as do ordinary mangos. The flesh is free from fiber and of good quality, and the tree is a regular bearer at Finca Mulgoba. It is named in honor of its discoverer, Mr. Van Hermann.

59647. PLUMERIA RUBRA L. Apocynaceæ.

This strain of *Plumeria rubra* blooms in April in Cuba and may flower earlier in Florida than the white-flowered species, *P. alba*. Its flowers are superb.

59648. PUNICA GRANATUM L. Punicaceæ.
Pomegranate.

An attractive double-flowered white variety, which might be useful as a pot plant.

For previous introduction, see S. P. I. No. 55923.

59649. LITCHI CHINENSIS Sonner. Sap-indaceæ.
Lychee.

From Santiago de las Vegas, Cuba. Fruits presented by H. A. Van Hermann, Finca Mulgoba. Received May 19, 1924.

In the hope of establishing the lychee in Florida, the Office of Foreign Plant Introduction has from time to time distributed young plants to experimenters in that State. Many of these plants have succumbed to cold winters, and at Miami the soil does not seem altogether satisfactory. On the western coast conditions are better in this last-named respect; when planted far enough south to be out of danger from severe frosts, the tree should have a good chance of success. Judging from the conditions under which the lychee is cultivated in southern China, we would expect the banks of the Caloosahatchee, below Fort Myers, to prove better suited to it than most other sections of Florida.

At Santa Barbara, Calif., the behavior of a single specimen planted 20 years ago or more has shown that the lychee can be grown there with a fair degree of success, provided a location practically free from danger of frost is selected. Most attempts to cultivate it in California, however, have resulted in failure. It does not seem likely that it will ever be feasible to grow it commercially in that State.

The excellent quality of the lychee as a fresh fruit and its ability to stand shipment suggest the desirability of establishing lychee orchards somewhere in the Western Hemisphere, so as to supply the North American markets. It may be practicable to develop these in southern Florida. Certainly they would succeed in Cuba, Porto Rico, and tropical America generally. (Wilson Popenoe, Bureau of Plant Industry.)

59650. ALLIUM CEPA L. Liliaceæ.
Onion.

From Ankober, Abyssinia. Bulbs collected by H. V. Harlan, Bureau of Plant Industry. Received June 3, 1924.

Introduced for onion-breeding tests.

No. 430. December 11, 1923. Purchased in Allu Amba. (Harlan.)

59651 to 59671.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received May 2, 1924.

59651. ACACIA SEYAL Delile. Mimosaceæ.

A small and rather slender acacia with reddish brown bark, ivory-white spines about 2 inches long, and heads of very fragrant flowers. The tree is common in tropical Africa north of the Equator, and is one of the principal gum-yielding acacias of the Nile region. This gum becomes white and brittle when dry, and has a relatively high viscosity and strong adhesive power.

For previous introduction, see S. P. I. No. 44923.

59652. ACACIA SUMA (Roxb.) Kurz. Mimosaceæ.

A medium-sized tree, native to the East Indies, with light-colored bark and branchlets armed with pairs of short, hooked spines. The heartwood is said to yield gum catechu, and the bark is used for tanning.

For previous introduction, see S. P. I. No. 52281.

59653. ASTRAGALUS sp. Fabaceæ.

59654. BETULA sp. Betulaceæ. Birch.

59655. CENTAUREA CANARIENSIS Willd. Asteraceæ.

A rather large bush which is very drought resistant. When covered with its large purple flowers, it is very ornamental. (Proschowsky.)

For previous introduction, see S. P. I. No. 53910.

59656. CUPRESSUS sp. Pinaceæ.

A very handsome species with drooping, glaucous branches. (Proschowsky.)

59657. DIOSPYROS sp. Diospyraceæ.

59658. ENTELEA PALMATA Lindl. Tiliaceæ.

The native home of this greenhouse shrub appears to be unknown. It grows about 4 feet high with heart-shaped, palmate leaves and umbels of rather small white flowers.

59659. GAULTHERIA FRAGRANTISSIMA Wall. Ericaceæ.

An Asiatic relative of the wintergreen which grows wild in the mountains of eastern India. It is a fragrant evergreen shrub or small tree which is loaded in summer with white or pinkish flowers; these are succeeded by racemes of handsome bluish purple berries.

For previous introduction, see S. P. I. No. 48309.

59660. HYDRANGEA HETEROMALLA D. Don. Hydrangeaceæ.

A Himalayan hydrangea, about 10 feet high, with red stems, oval, sharp-pointed leaves, white hairy beneath, and white flowers borne in clusters about 6 inches wide.

59661. LEUCOSCEPTRUM CANUM J. E. Smith. Menthaceæ.

A stout-branched, densely hairy tree, commonly about 30 feet in height, with large, narrowly ovate leaves, silvery hairy beneath and at times a foot long. The small white or pinkish flowers are in spikes.

For previous introduction, see S. P. I. No. 57888.

59662. PASSIFLORA ALBA Link and Otto. Passifloraceæ.

A tropical American passiflora with broadly oval, somewhat heart shaped, shallowly 3-lobed leaves, clear-white flowers over 2 inches across, and yellowish fruits about the size and shape of a hen's egg.

59651 to 59671—Continued.

59663. *PITTOSPORUM MACROPHYLLUM* Schum. and Lauterb. Pittosporaceæ.

The plant has existed in my garden for more than 20 years. It is the most beautiful of the dozen or so Pittosporum species which I cultivate. The leaves occasionally attain nearly the size of those of *Magnolia grandiflora*, and the flowers are perhaps not surpassed in fragrance by any other flower; indeed the fragrance is most exquisite. (Proschowsky.)

59664. *PRUNUS* sp. Amygdalaceæ.

From Indo China.

59665. *PRUNUS* sp. Amygdalaceæ.

From Tran Ninh, Tonkin.

59666. *RHODODENDRON* sp. Ericaceæ.

A hybrid.

59667. *RUBUS LINEATUS* Reinw. Rosaceæ.

An attractive suberect woody plant which is found wild at altitudes of 6,000 to 9,000 feet in the Sikkim Himalayas, according to Hooker (Flora of British India). The white flowers are produced in short axillary heads and terminal silvery panicles, and the berries are small and red.

For previous introduction, see S. P. I. No. 48409.

59668. *SAMBUCUS ADNATA* Wall. Caprifoliaceæ.

A Himalayan relative of the elderberry which has clusters of fragrant, white flowers about 10 inches in diameter, followed by red fruits.

For previous introduction, see S. P. I. No. 46100.

59669. *TIPUANA TIPU* (Benth.) Lillo (*T. speciosa* Benth.). Fabaceæ. Tipu.

Tipu. Sr. Salvador Izquierdo describes this plant as follows: A handsome, ornamental tree from the Argentine Republic. It has compact, delicate foliage and is excellent for parks and roadways. In its native country it is said to grow nearly as rapidly as *Eucalyptus globulus*. In the Botanic Gardens at Buenos Aires it has reached a height of 4½ meters (15 feet) in 31½ months. Plants imported from Argentina have shown much vigor at Santa Ines, Chile, and have grown even during the winter months. The wood is useful for furniture and rough purposes. Its horizontal branches make it an excellent shade tree.

For trial on the Pacific coast and in our Southwestern States.

For previous introduction, see S. P. I. No. 54643.

59670. (Undetermined.)

A climbing plant from Indo China which is said to yield rubber.

59671. *VACCINIUM GLAUCO-ALBUM* Hook. f. Vacciniaceæ.

An evergreen Himalayan shrub, about 4 feet high, with stiff, oval leaves, green above and bluish white beneath. The pinkish white flowers are in axillary racemes which are conspicuous because of their large, persistent, blue-white bracts, edged with bristles. The blue-black berries are about one-third of an inch in diameter.

59672 to 59687.

From Lucknow, United Provinces, India. Seeds presented by F. H. Johnson, superintendent, Government Horticultural Gardens. Received May 5, 1924.

59672. *ACACIA AURICULAEFORMIS* A. Cunn. Mimosaceæ.

One of the many species of *Acacia* found native in Australia. It is described by Bentham (Flora Australiensis) as a small tree with sickle-shaped

59672 to 59687—Continued.

phyllodia and pods which are irregularly and very much twisted. Of possible value as an ornamental for the most tropical parts of the United States.

59673. *ADANSONIA DIGITATA* L. Bombacaceæ. Baobab.

The baobab, originally from central Africa, is now cultivated in many tropical countries and is famous for the great age which it is said to attain. The short, thick trunk sometimes becomes 30 feet in diameter. The pulp of the gourdlike fruit is edible, and the juice is used to make a beverage.

For previous introduction, see S. P. I. No. 42827.

59674. *ANOGEISSUS* sp. Combretaceæ.

Received as *Antidesma ghesaembilla* but does not agree with that species.

The members of this genus are trees or shrubs, native to India; some of the species are valued for timber and for the gum, used in printing calico, which exudes from the bark.

59675. *CASSIA DIDYMOBOTRYA* Fres. Cæsalpiniaceæ.

An African shrub or small tree, 7 to 10 feet high, with finely divided leaves about a foot long, and numerous yellow flowers in erect racemes up to a foot in length.

For previous introduction, see S. P. I. No. 51632.

59676. *COLVILLEA RACE MOSA* Boj. Cæsalpiniaceæ.

This handsome tropical tree, believed to be native to East Africa, should be tested in southern Florida along with the poinciana, to which it is related. It is said to reach 40 or 50 feet in height. The pinnate leaves are 3 feet in length, and the brilliant scarlet, curiously shaped flowers are borne in drooping racemes more than a foot long. The tree was named for Sir Charles Colville, Governor of Mauritius; it was discovered in 1824 on the west coast of Madagascar, where it flowers in April or May.

In all probability it will stand no more frost than the poinciana. Like most other leguminous trees, it is readily propagated from seeds. Since it is not yet commonly cultivated in tropical America, it is recommended for trial in Porto Rico, Cuba, the Canal Zone, and elsewhere.

59677. *FICUS LACOR* Buch.-Ham. Moraceæ.

A tropical Asian fig which attains a height of 60 feet and appears to be of promise as a shade tree for the warm parts of the United States. The small whitish fruits, a quarter of an inch thick, are in axillary pairs.

59678. *FIRMIANA COLORATA* (Roxb.) R. Br. (*Sterculia colorata* Roxb.). Sterculiaceæ.

The brilliant orange flowers of this Indian tree, appearing before the leaves, make it desirable as an ornamental tree for regions having very little frost.

59679. *HETEROPHRAGMA ADENOPHYLLUM* (DC.) Seem. Bignoniaceæ.

An ornamental African tree related to catalpa, but adapted for cultivation in subtropical regions only. It reaches a height of 30 to 50 feet, with large opposite, pinnate leaves and brownish yellow, woolly flowers in terminal panicles.

For previous introduction, see S. P. I. No. 52291.

59680. *HOLOPTELEA INTEGRIFOLIA* (Roxb.) Planch. Ulmaceæ.

A large, spreading tree, closely related to the elms, which grows in dry, sandy soils at low altitudes in northern and central India. Its chief use appears to be as a timber tree; the wood is yellowish gray and moderately hard and is used for general construction.

59672 to 59687—Continued.

59681. *MIMUSOPS ELENGI* L. Sapotaceæ.

A tall East Indian tree, 50 feet or less in height, with thick, shining leaves and edible, ovoid fruits an inch or less in length. The chief value of this tree is likely to be as an ornamental for southern Florida.

For previous introduction, see S. P. I. No. 51819.

59692. *PITHECOLOBIUM BIGEMINUM* (L.) Mart. Mimosaceæ.

The chief uses of this large Indian tree appear to be as timber and for native medicine, a decoction of the leaves being employed externally as a stimulant. The wood is dark colored and heavy.

59683. *PUTRANJIVA ROXBURGHII* Wall. Euphorbiaceæ.

A moderate-sized, evergreen, tropical Indian tree, with small, obtuse leaves and white, hairy fruits the size of a cherry. From the seeds is obtained an olive-brown oil used by the natives of India for burning. The hard, gray wood is used for making tools.

For previous introduction, see S. P. I. No. 52296.

59694. *SAPINDUS EMARGINATA* Vahl. Sapindaceæ.

A handsome tree from southern India, which is valued in its native country chiefly for the supposed medicinal virtues of the pulp of the small fleshy fruit.

59685. *SOYMIDA FEBRIFUGA* (Roxb.) Juss. Meliaceæ.

A tall, tropical tree, closely related to the mahogany, found throughout northwestern and southern India, where it is used for many purposes. The deep-red bark, according to Watt (Dictionary of the Economic Products of India), contains a valuable adhesive gum, is used for tanning, yields a strong fiber, and has been used medicinally as a substitute for Peruvian bark. The wood is heavier and stronger than the better known American mahogany and has many uses.

59686. *TERMINALIA BELLERICA* (Gaertn.) Roxb. Combretaceæ.

The small, round fruits of this handsome tropical Indian tree have been exported from India for tanning purposes under the name of myrobalans. The yellowish gray wood is used for general construction. The tree also has merit as a shade tree for avenues, with its huge, buttressed trunk and long horizontal branches.

59687. *TERMINALIA MUELLERI* Benth. Combretaceæ.

Some of the *Terminalias* have proved to be very attractive shade trees for subtropical regions. According to Benth (Flora Australiensis) this Australian species is a large tree, when grown under favorable conditions, with leathery leaves up to 8 inches long, loose spikes of small white flowers, and small, ovoid, blue fruits.

59688. *SACCHARUM OFFICINARUM* L. Poaceæ. Sugar cane.

From Taru Jabba, near Peshwar, India. Cuttings presented by Robertson Brown, Agricultural Officer, Northwest Frontier Province. Received May 23, 1924.

Assam Red. A variety which appears especially promising because of its vigor, earliness, and freedom from disease and the sugar-cane borer.

Introduced for sugar-cane specialists.

59689. *AVENA BARBATA* WIESTII (Steud.) Hausskn. Poaceæ. Oats.

From Giza, Egypt. Seeds presented by the director; horticultural section, Ministry of Agriculture. Received May 8, 1924.

An erect, caespitose, somewhat hairy annual grass about 3 feet in height, with very narrow leaves about 6 inches long. Native to Egypt and Arabia. Introduced for forage-crop specialists.

For previous introduction, see S. P. I. No. 53626.

59690. *COLOCASIA* sp. Araceæ.

From Buitenzorg, Java. Tubers presented by the director of the Botanic Garden. Received May 10, 1924.

The central corm of this relative of the dasheen is of excellent quality for eating.

Received as *C. monorrhiza*, for which a place of publication has not been found.

59691 to 59700.

From Lwow (Lemberg), Poland. Seeds presented by Walery Swederski, director, Station Expérimentale Botanique et Agricole. Received May 3, 1924.

59691. *ALLIUM SCHOENOPRASUM* L. Liliaceæ.

For previous introduction and description, see S. P. I. No. 59387.

Introduced for horticulturists investigating the food possibilities of the genus *Allium*.

59692. *ATROPA BELLADONNA* L. Solanaceæ.

Belladonna seeds introduced for the use of drug-plant specialists.

59693 to 59700.

A collection of native European plants introduced chiefly for forage-crop specialists for breeding and selection experiments.

59693. *AVENA PLANICULMIS* Schrad. Poaceæ. Grass.

A perennial Siberian grass which thrives in dry, open places, forming a thick turf. The numerous branches are about 4 inches long, and the coarse leaves are up to an inch in width.

59694. *AVENA VERSICOLOR* Vill. Poaceæ. Grass.

A perennial grass which forms a thick turf. The rhizome is short and creeping, with short runners. The stems are sometimes 2 feet in height. Native to rocky places in the Mediterranean countries.

59695. *FESTUCA ELATIOR APENNINA* (DeNot.) Hack. Poaceæ. Grass.

A perennial European grass which forms a loose turf, with stems 2 to 3 feet high, and bluish green leaves about a foot long.

59696. *FESTUCA RUBRA PICTA* (Kit.) Hack. Poaceæ. Grass.

A perennial Hungarian grass which occasionally forms a loose turf. The stems are about a foot high, with bristly leaves.

59697. *PINUS MONTANA PUMILIO* (Haenke) Willk. Pinaceæ. Pine.

A handsome, hardy, low, shrubby pine with ascending branches densely clothed with bright-green foliage. Before maturity the cone is usually violet-purple, becoming yellowish or dark brown when fully ripe. This form is native to the mountains of central Europe.

59691 to 59700—Continued.

59698. *POA VIOLACEA* Bell. Poaceae. Grass.

An alpine perennial grass, found native only in the European Alps, with rhizomes forming a thick turf. The roughish stems are a foot or two in height, and the blue-green leaves terminate in long bristly points.

59699. *TRIFOLIUM PRATENSE FRIGIDUM* Aschers. and Graebn. Fabaceae. Red clover.

A Hungarian variety of red clover which differs from the type chiefly in having smaller flower heads and obcordate leaflets in the lower leaves.

59700. *TRISTETUM CARPATICUM* (Host.) Roem. and Schult. Poaceae. Grass.

A perennial grass, about a foot high, from the alpine and subalpine regions of central Europe. It is very similar to *Trisetum alpestre*, but has a wider creeping rhizome. The leaf-sheaths are often very bristly, and the leaves are about a quarter of an inch wide.

59701 to 59764.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29, 1924. Notes by Mr. Rock.

59701. *ALLIUM* sp. Liliaceae.

No. 11427. November, 1923. A plant from 2 to 3 feet tall found on the alpine meadows of the Likang Snow Range between 12,000 and 13,000 feet altitude. The leaves are long-linear and the deep wine-colored flowers are in large umbels.

59702. *DELPHINIUM* sp. Ranunculaceae.

No. 11435. November, 1923. A beautiful species which resembles very much *Delphinium likiangense*, but the plant is smaller. The large, blue flowers are bell-shaped. It was found growing in an alpine meadow of the Likang Snow Range at an altitude of 14,000 feet.

59703. *DELPHINIUM* sp. Ranunculaceae.

No. 11436. November, 1923. A large, handsome species 1 to 2 feet high found growing on limestone boulders at 12,500 feet altitude on the Ladsakodjo-Likang Range. The steel-blue flowers are large and pubescent.

59704. *DELPHINIUM* sp. Ranunculaceae.

No. 11438. November, 1923. A plant 2 to 3 feet high found along streams on the Likang Snow Range at from 9,000 to 10,000 feet altitude. The leaves are broadly palmatisect, and the deep purple flowers are on long spikes.

59705. *DEUTZIA* sp. Hydrangeaceae.

No. 11417. November, 1923. A small bush 5 to 8 feet high found on the Likang Snow Range. The small leaves are oval elliptical and pubescent; the flowers are deep lavender purple and grow in small racemes.

59706. *PEDICULARIS* sp. Scrophulariaceae.

No. 11442. November, 1923. A small plant 1 foot high found on alpine meadows of the Likang Snow Range at 13,000 feet altitude. The leaves are of millefolium type, and the rich reddish purple flowers grow in spikes.

59707. *PHILADELPHUS* sp. Hydrangeaceae.

No. 11445. November, 1923. A shrub 5 to 8 feet high found growing on the slopes of the Likang Snow Range along the streams at from 9,000 to 10,000 feet altitude. This fine species has small leaves and fragrant white flowers.

59701 to 59764—Continued.

59708. *PIERIS* sp. Ericaceae.

No. 11420. November, 1923. A handsome shrub from 5 to 6 feet high found growing in scrub forests of the Likang Snow Range from 10,000 to 11,000 feet altitude. The small, oval-elliptical leaves are on red branchlets, and the white bell-shaped flowers are in short racemes.

59709. *PIERIS* sp. Ericaceae.

No. 11431. November, 1923. A shrub 5 feet high found in scrub forests on the Likang Snow Range at 10,000 feet altitude. The oval leaves are glabrous and rich green; the white flowers grow in spikes which protrude beyond the leaves.

59710. *PRIMULA FORRESTII* Balf. f. Primulaceae. Primrose.

No. 11410. November, 1923. A perennial (50 to 100 years old) found in limestone crevices in the drier regions of the Likang Snow Range at from 10,000 to 11,000 feet altitude. The deep-green crenate leaves have the fragrance of apples, and the flowers are deep golden yellow.

59711. *PRIMULA PINNATIFIDA* Franch. Primulaceae. Primrose.

November, 1923. A plant 3 to 10 inches tall found in swampy alpine meadows on the Likang Snow Range at from 14,000 to 15,000 feet altitude in company with *P. pseudosikkimensis* and *P. secundiflora*. The thin leaves are pinnatifid, and the bright-blue flowers are in spikes.

59712. *PRIMULA SEPTEMLoba* Franch. Primulaceae. Primrose.

No. 11439. November, 1923. A plant found in shady places on mossy banks in fir forests at Saba, Likang Snow Range, at 11,000 feet altitude. The large flaccid leaves are irregularly lobed, and the large deep-red wine-colored flowers grow in small umbels.

59713 to 59762. *RHODODENDRON* spp. Ericaceae.59713. *RHODODENDRON CHARTOPHYLLUM* Franch.

No. 11422. November, 1923. One of the finest species, found in a fir forest on the Likang Snow Range at from 9,800 feet to 12,000 feet altitude. It is deciduous at flowering, and the large flowers are all shades from white to mauve, deep pink, and even blue smoke colored.

59714. *RHODODENDRON HELIOLEPIS* Franch.

Nos. 10943 (fruit), 8889 (flowers). November, 1923. A shrub or small tree from 5 to 15 feet high found in forests of fir and spruce on the Londrie Mountains at from 11,000 to 12,000 feet altitude. The oval leaves are brown beneath and punctate; the flowers are deep lavender purple.

59715. *RHODODENDRON HELIOLEPIS* Franch.

Nos. 11263 (fruit), 8419 (flowers). October, 1923. A shrub 6 to 10 feet high found in spruce forests on Mount Lanchun at from 11,000 to 12,000 feet altitude. The oval, acute leaves are brown punctate beneath, and the flowers are rich lavender purple.

59716. *RHODODENDRON LEPIDOTUM* Wall.

No. 11430. November, 1923. A shrub only a foot high found among rocks on the outskirts of pine forests on the Likang Snow Range at from 9,000 to 10,000 feet altitude. The very small leaves are oval, and the flowers, on slender pedicels, are deep-red wine colored.

59701 to 59764—Continued.

59717. RHODODENDRON RACEMOSUM Franch.

Nos. 11403 (fruit), 8512 (flowers). November, 1923. A small shrub 2 to 3 feet high found on the alpine meadows of Saba, Likiang Snow Range, at 11,000 feet altitude. The small, elliptical-ovate leaves are pale beneath, and the deep-pink flowers smell like mint when crushed.

59718. RHODODENDRON RACEMOSUM Franch.

No. 11424. November, 1923. A small shrub 2 feet high found in pine forests on the Likiang Snow Range at from 10,000 to 11,000 feet altitude. The small oval leaves are pale beneath, and the pink flowers are fragrant.

59719. RHODODENDRON sp.

Nos. 10935 (fruit), 8878 (flowers). November, 1923. A shrub 2 feet high found on the alpine regions of Mount Londjre at from 12,000 to 13,000 feet altitude. The small elliptical leaves are brown beneath, and the flowers are small, tubular, and pink.

59720. RHODODENDRON sp.

Nos. 10941 (fruit), 10288 (flowers). November, 1923. A small shrub 2 feet high growing in masses on the alpine slopes of Mount Londjre. The leaves are elliptical and glabrous; the large flowers are bright crimson.

59721. RHODODENDRON sp.

Nos. 10942 (fruit), 8882 (flowers). November, 1923. A shrub or small tree 7 to 8 feet high found on the alpine slopes of Mount Londjre. The long, linear-lanceolate leaves are glabrous and the large flowers are deep lavender purple.

59722. RHODODENDRON sp.

Nos. 10944 (fruit), 8885 (flowers). November, 1923. A shrub 4 feet high found in forests on Mount Londjre at from 10,000 to 12,000 feet altitude. The oval-oblong leaves are golden yellow beneath, and the large flowers are deep purplish crimson.

59723. RHODODENDRON sp.

Nos. 10945 (fruit), 10287 (flowers). November, 1923. A small shrub 1 to 2 feet high found in the alpine regions of Mount Londjre at 12,000 feet altitude. The elliptic-lanceolate leaves are brown tomentose beneath. The large flowers are rich reddish purple.

59724. RHODODENDRON sp.

Nos. 10946 (fruit), 10264 (flowers). November, 1923. A shrub 3 feet high found on the alpine slopes of Mount Londjre at 12,000 feet altitude. The linear-elliptical leaves are deep chocolate brown beneath, and the large flowers are rich golden yellow.

59725. RHODODENDRON sp.

Nos. 10953 (fruit), 10283 (flowers). November, 1923. A small shrub 2 feet high found on the alpine slopes of Mount Londjre at 12,000 feet altitude. The elliptical leaves are glabrous and vary from green to brown; the deeply lobed flowers are yellow with a reddish tinge.

59726. RHODODENDRON sp.

Nos. 10954 (fruit), 9154 (flowers). November, 1923. A shrub 5 feet high found on the slopes of the Tsehung Mountains at 10,000 feet altitude. The oval leaves are glabrous, and the flowers are lavender purple.

59701 to 59764—Continued.

59727. RHODODENDRON sp.

Nos. 10955 (fruit), 9284 (flowers). November, 1923. A tree 18 to 20 feet high found on the slopes of the Tsehung Mountains, Mekong Valley, at 10,000 feet altitude. The very large leaves are oblong and grayish brown beneath; the large flowers are pale pink.

59728. RHODODENDRON sp.

Nos. 10956 (fruit), 9126 (flowers). November, 1923. A shrub 5 feet high found in the alpine regions of the Tsehung Mountains, Mekong Valley, at 13,000 feet altitude. The narrow leathery leaves have revolute margins and are covered with deep rufous wool beneath; the flowers are pink or whitish purple.

59729. RHODODENDRON SEMNUM Balf. f. and Forrest.

Nos. 10957 (fruit), 9138 (flowers). November, 1923. A small tree 8 to 10 feet high found in the alpine regions of the Tsehung Mountains, Mekong Valley, in fir forests at 13,000 feet altitude. The large, broadly oblong leaves are silvery brown beneath, and the large flowers are cream colored.

59730. RHODODENDRON sp.

Nos. 10958 (fruit), 8824 (flowers). November, 1923. A shrub or small tree 7 to 8 feet high found in the alpine regions of the Tsehung Mountains, Mekong Valley, at 13,000 feet altitude. The oval glabrous leaves are brownish beneath, and the flowers are pink, spotted with dark purple.

59731. RHODODENDRON sp.

Nos. 11021 (fruit), 8752 (flowers). October, 1923. A small tree 8 to 10 feet high found on the Sila Pass, Mekong-Salwin Divide, at 14,000 feet altitude. The linear-oblong leaves are dark green above and glabrous brown beneath; the flowers are rose red.

59732. RHODODENDRON sp.

Nos. 11088 (fruit), 9957 (flowers). November, 1923. A low bush only a few inches high found in alpine meadows on the Peima Mountains, Mekong-Yangtze Divide, at from 15,000 to 16,000 feet altitude. The minute leaves are one-fourth of an inch or less in length, and the flowers are blue.

59733. RHODODENDRON sp.

Nos. 11091 (fruit), 9266 (flowers). November, 1923. A woody plant only a few inches high found on the alpine slopes of the Peima Mountains, Mekong-Yangtze Divide, at from 15,000 to 16,000 feet altitude. The leaves are minute and covered beneath with a silky brown tomentum; the flowers are deep blue.

59734. RHODODENDRON sp.

Nos. 11093 (fruit), 9249 (flowers). November, 1923. A small shrub 12 inches high found in the alpine regions of the Peima Mountains, Mekong-Yangtze Divide, at 15,000 feet altitude. The very small leaves are oval and a silky brown beneath; the small flowers are rich yellow.

59735. RHODODENDRON sp.

Nos. 11094 (fruit), 9954 (flowers). November, 1923. A shrub 4 to 5 feet high found on the Peima Mountains, Mekong-Yangtze Divide, at 15,000 feet altitude. The ovate glabrous leaves are acute, and the flowers are white to pinkish, spotted purple.

59701 to 59764—Continued.

59736. RHODODENDRON sp.

Nos. 11096 (fruit), 9271 (flowers). November, 1923. A small tree 12 to 15 feet high found on the Peima Mountains at 14,000 feet altitude. The rich green leaves are covered with fawn tomentum beneath, and the large flowers of white spotted with purple are in large umbels.

59737. RHODODENDRON sp.

Nos. 11097 (fruit), 9241 (flowers). November, 1923. A shrub or small tree 10 feet high, found on the high alpine slopes on the Peima Mountains. The oval, acute leaves are densely matted beneath with yellowish white tomentum, and the flowers are pinkish spotted with purple.

59738. RHODODENDRON sp.

Nos. 11099 (fruit), 8864 (flowers). November, 1923. A small tree 8 to 10 feet high found on the alpine slopes of the Peima Mountains at from 14,000 to 15,000 feet altitude. The large obovate-oblong, acute leaves are brown beneath, and the large flowers are pale pink.

59739. RHODODENDRON sp.

Nos. 11117 (fruit), 9963 (flowers). November, 1923. A shrub 5 feet high found in the Peima Mountains, Mekong-Yangtze Divide, at 14,000 feet altitude. The linear-lanceolate leaves are covered with brown tomentum beneath, and the flowers are pink.

59740. RHODODENDRON sp.

Nos. 11118 (fruit), 9265 (flowers). November, 1923. A shrub 6 to 7 feet high found in the Peima Mountains at 14,000 feet altitude. The ovate, cordate leaves are covered with pale yellowish white matted tomentum; the flowers are white with the lobes of the petals purple.

59741. RHODODENDRON sp.

Nos. 11135 (fruit), 9262 (flowers). November, 1923. A small tree 12 to 15 feet high found in the Peima Mountains at from 14,000 to 15,000 feet altitude. The oblong, acute leaves are dark green with revolute margins and are densely matted beneath with brown tomentum; the flowers are white, spotted with purple.

59742. RHODODENDRON sp.

Nos. 11178 (fruit), 10167 (flowers). October, 1923. A low shrub 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at the Tibetan border. The oblong-elliptical leaves are tomentose beneath and the flowers are deep rich red.

59743. RHODODENDRON sp.

Nos. 11183 (fruit), 10258 (flowers). October, 1923. A low shrub 1 to 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at about 13,000 feet altitude. The small elliptical leaves are rich green above and golden-yellow tomentose beneath; the flowers are very dark carmine.

59744. RHODODENDRON sp.

Nos. 11186 (fruit), 10174 (flowers). October, 1923. A low shrub 2 feet high found on the Kenichunpu Mountains, Salwin-Irrawaddy Divide, Tibet. The small, elliptical, sessile leaves are acute at both ends, dark green above and covered with purplish black tomentum beneath; the flowers are rich yellowish red.

59745. RHODODENDRON sp.

Nos. 11191 (fruit), 10210 (flowers). October, 1923. A shrub 6 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, on the Tibetan border at 13,000 feet altitude. The ovate leaves are covered with a thin brown tomentum beneath, and the flowers are red.

59701 to 59764—Continued.

59746. RHODODENDRON sp.

Nos. 11203 (fruit), 10101 (flowers). October, 1923. A small shrub 1 foot high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The small, ovate-elliptical leaves are gray beneath, and the flowers are dark crimson.

59747. RHODODENDRON sp.

Nos. 11208 (fruit), 10171 (flowers). October, 1923. A shrub 1 to 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, Tibetan border, at 13,000 feet altitude. The small elliptical leaves are dark gray tomentose beneath, and the flowers are dark red.

59748. RHODODENDRON sp.

No. 11214. October, 1923. A shrub 2 to 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The small elliptical leaves are glaucous beneath, and the flowers, which were not seen, may be red.

59749. RHODODENDRON sp.

Nos. 11254 (fruit), 8580 (flowers). October, 1923. A shrub 6 to 8 feet high found on rocky alpine regions on Mount Lautchun at 13,500 feet altitude. The large, oval-oblong leaves are covered with white matted tomentum beneath, and the large flowers are snow white.

59750. RHODODENDRON sp.

Nos. 11256 (fruit), 8403 (flowers). October, 1923. A small tree found on the slopes of Mount Lautchun at 10,000 feet altitude. The linear-oblong, green leaves are glabrous beneath, and the large flowers are purplish red.

59751. RHODODENDRON sp.

Nos. 11267 (fruit), 8407 (flowers). October, 1923. A small shrub 3 to 4 feet high found on Mount Lautchun at 8,000 feet altitude. The oval, glaucous leaves are glabrous beneath, and the rich pink flowers are on long pedicels.

59752. RHODODENDRON CRASSUM Franch.

Nos. 11276 (fruit), 9502 (flowers). October, 1923. A shrub 8 feet high found on Mount Shenzi at from 10,000 to 12,000 feet altitude. This is an extraordinary plant with dark green, oval-oblong acute leaves which are greenish brown punctate beneath; the fleshy tubular flowers are very large.

59753. RHODODENDRON sp.

Nos. 11290 (fruit), 8449 (flowers). October, 1923. A tree 25 to 30 feet high found on the Labako Mountains at 12,000 feet altitude. This remarkable tree has leaves which are very large, dark green and glossy above and deep brown woolly beneath; the flowers are white.

59754. RHODODENDRON sp.

Nos. 11379 (fruit), 8260 (flowers). November, 1923. A tree 20 feet high found on the mountains of Sungkwe, south of Likang, at 11,000 feet altitude. The broad, oblong leaves are faintly tomentose and greenish brown beneath; the flowers are white.

59755. RHODODENDRON sp.

Nos. 11382 (fruit), 8263 (flowers). November, 1923. A tree 20 feet high found on the Sungkwe Mountains south of Likang at 10,500 feet altitude. The ovate-acute leaves are a glossy dark green above and deep rufous woolly beneath. The flowers are pinkish white.

59701 to 59764—Continued.

59756. RHODODENDRON sp.

Nos. 11385 (fruit), 9185 (flowers). November, 1923. A shrub 7 to 8 feet high found on the alpine meadows of Litiping, Mekong-Yangtze Divide, at 12,000 feet altitude. The oval glabrous leaves are subcordate, and the pale pink flowers are slightly spotted.

59757. RHODODENDRON NIPHARGUM Balf. f. and Ward.

Nos. 11386 (fruit), 9174 (flowers). November, 1923. A shrub 10 feet high found in fir forests of Litiping, Mekong-Yangtze Divide, at 12,000 feet altitude. The oblong leaves are silvery beneath, and the flowers are deep rich pink.

59758. RHODODENDRON sp.

Nos. 11387 (fruit), 9186 (flowers). November, 1923. A shrub 7 to 8 feet high found in the mountains of Litiping, Mekong-Yangtze Divide, at 12,000 feet altitude. The oval leaves are glossy green and paler beneath; the flowers are bluish purple.

59759. RHODODENDRON GLISCHRUM Balf. f. and Smith.

Nos. 11388 (fruit), 9178 (flowers). November, 1923. A tree 15 to 18 feet high found in fir forests on the Litiping Mountains, Mekong-Yangtze Divide, at 12,000 feet altitude. The large leaves are rich green above; beneath they are brown hirsute as are also the petioles, inflorescence, and capsules; the flowers are rich pinkish purple.

59760. RHODODENDRON sp.

No. 11410. November, 1923. A small shrub 2 feet high found on the Sanhaitze Road on the rocky slopes of the Likiang Snow Range at an altitude of 11,000 feet. The small oval-elliptical leaves are whitish and punctate beneath; the flowers are pink.

59761. RHODODENDRON sp.

No. 11421. November, 1923. A shrub 8 feet high found on the alpine slopes of the Likiang Snow Range at from 13,000 to 14,000 feet altitude. The oval-oblong leaves are covered with fine brownish tomentum beneath, and the large flowers are pink.

59762. RHODODENDRON sp.

Seeds unaccompanied by notes.

59763. ROSCOEA sp. Zinziberaceæ.

No. 11443. November, 1923. A plant 1 to 2 feet high found in meadows and scrub forest on the drier slopes of the Likiang Snow Range at from 10,000 to 11,000 feet altitude. This handsome species has linear leaves and large yellow flowers.

59764. SAUSSUREA sp. Asteraceæ.

No. 11433. November, 1923. A curious plant found at 17,000 feet altitude among limestone rocks on the Likiang Snow Range. It has palmatisect leaves, and the oblong flower heads are covered and hidden with a cottony substance.

59765. CUCUMIS SATIVUS L. Cucurbitaceæ. **Cucumber.**

From Basingstoke, Hants, England. Seeds presented by G. W. Schroeder, Cedar Nurseries. Received May 24, 1924.

Butcher's "Disease Resister." Introduced for trial in comparison with the commonly cultivated American cucumbers.

59766. ASCLEPIAS SUBULATA Decaisne. Asclepiadaceæ.

From Bard, Calif. Seeds presented by Harry A. Gunning, Bureau of Plant Industry. Received June 5, 1924.

The milky juice of many milkweeds contains a small percentage of rubber, and this species has been secured for testing by rubber specialists. It is an erect perennial, native to northwestern Mexico, with very narrow, subulate leaves.

59767. UROCHLOA BRACHYURA Stapf. Poaceæ.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received June 3, 1924.

Introduced for forage-crop specialists.

An annual tufted grass, 4 feet or more in height, native to the eastern and western parts of South Africa. It is said to be the one grass most sought after by wild game and domestic animals of the regions where it grows.

59768. PHYLLOCARPUS SEPTENTRIONALIS Donn-Smith. Cæsalpiniaceæ.

From the city of Guatemala, Guatemala. Seeds purchased through the American consul. Received May 26, 1924.

A handsome flowering tree of eastern Guatemala, where it occurs in the Motagua Valley at elevations of 1,000 to 2,000 feet. It is usually of spreading habit, up to 40 feet in height, with small, light-green, compound leaves, and small crimson-scarlet flowers, which are borne in great profusion during the latter part of the dry season, at which time the tree is deciduous. It is a striking thing when it is in full bloom and is worthy of trial throughout the Tropics. It is probably no more frost resistant than the royal poinciana. At Naples, Fla., plants several years old give promise of being successful.

For previous introduction, see S. P. I. No. 56906.

59769. ERYTHRINA MONOSPERMA Gaud. Fabaceæ.

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, department of botany and forestry, experiment station of the Hawaiian Sugar-Planters' Association. Received May 24, 1924.

The *wiliwili* is a handsome tree of spreading habit which inhabits the dry regions of all of the islands of the Hawaiian Archipelago. According to J. F. Rock, in "The Leguminous Plants of Hawaii," it becomes 30 feet high, with a short trunk and thin, yellowish bark. A few prickles are scattered along the trunk and branches. The rounded heart-shaped leaflets are about 2 inches long, and the brick-red, orange, or pale-yellow flowers are in terminal clusters.

For previous introduction, see S. P. I. No. 54897.

59770 to 59774.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

59770 and 59771. HELIANTHUS ANNUUS L. Asteraceæ. **Sunflower.**

To be tested for seed production.

59770. From Gorbea, Chile.

59771. Light sulphur.

59770 to 59774—Continued.

59772 and 59773. *HORDEUM VULGARE FALLIDUM* Seringe. Poaceæ. Six-rowed barley.

Collected for cereal-breeding experiments.

59774. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

Collected for testing as forage.

59775. *LANDOLPHIA SENEGALENSIS* Kotschy and Peyr. Apocynaceæ.

From Jamaica, British West Indies. Cuttings presented by F. E. Betheuser. Received May 23, 1924.

A woody climber from the forests of Senegal, French West Africa, introduced for testing by rubber specialists.

59776. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ.

Common wheat.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Collected for cereal-breeding experiments.

59777 to 59840.

From Seine, France. Plants purchased from Millet & Fils, Bourg-la-Reine. Received April 18, 1924.

Introduced for strawberry breeders.

59777 to 59829. *FRAGARIA* spp. Rosaceæ.

Strawberry.

59777. *Abondance*. Fruit large, intense red; flesh red, juicy, fragrant. A vigorous, very early variety. (*Rivoire Père & Fils catalogue*.)

59778. *Africa*. Fruit large, dark red. (*Millet & Fils catalogue*.)

59779. *Alphonse XIII*. Vigorous, drought resistant, and productive. Fruits large to very large, uniformly heart-shaped, scarlet; flesh firm, pink, juicy, of excellent flavor. Recommended for cultivation on a large scale. (*Vilmorin-Andrieux & Co. catalogue*.)

59780. *Ananas de Guémené*. Seedling of a Chilean strawberry; a magnificent berry, rosy white, juicy, perfumed, late. (*J. M. Merrick, jr., The Strawberry, 1870, p. 68*.)

59781. *Avant-Toutes*. The earliest variety known to us; of unknown origin. Fruit small, dark red, and acid. (*Millet & Fils catalogue*.)

59782. *Aviateur Guynemer*. A noneverbearing variety with aromatic sugary flesh. Quality very good. (*La Pomologie Française, p. 154, 1924*.)

59783. *Barnes's Large White*. Plant moderately vigorous, thickest; fruits round or conical, blunt, white tinged with pink; flesh white, juicy, sugary, with musky flavor. Very productive. (*Robinson, Vegetable Garden, p. 681*.)

59784. *Belle Bordelaise*. A thickset, compact plant with rather long, often conical, fruits which ripen about the middle of June. (*Robinson, Vegetable Garden, p. 677*.)

59785. *Belle de Cours*. A vigorous, late-ripening variety; fruits numerous, dark red; flesh rosy white, firm, and sweet. (*Robinson, Vegetable Garden, p. 681*.)

59786. *Black Hautbois*. A seedling of the conical Hautbois, raised in 1815. Fruit conical, dark dingy purple; seeds little sunken; flesh buttery and high flavored. A great bearer, early. (*J. M. Merrick, jr., The Strawberry, 1870, p. 67-68*.)

59777 to 59840—Continued.

59787. *Centenaire*. Fruits very large, oblong, blunt, well colored, of good quality. Plant vigorous, thriving without special care. (*Vilmorin-Andrieux & Co. catalogue*.)

59788. *Cérés*. Fruit large, or very large, elongated conical, truncated; color deep red; flesh red, firm, sugary, and juicy. Plant vigorous and productive. A seedling of Haquin, which it surpasses. (*J. M. Merrick, jr., The Strawberry, 1870, p. 72*.)

59789. *Châtelaine de Grenthville*. Related to *Louis Gauthier*; almost as large and whiter. Flesh very sweet, fragrant. (*Millet & Fils catalogue*.)

59790. *Commandant Marchand*. Fruit elongated, with pinkish white, sweet flesh. (*Millet & Fils catalogue*.)

59791. *Délicatesse*. A very early variety with fruit of excellent quality. (*Millet & Fils catalogue*.)

59792. *Docteur Morère*. A very vigorous variety with very large, broad fruits which are deep red when ripe, with pink, sugary flesh resembling that of the Chilean strawberry in flavor. (*Robinson, Vegetable Garden, p. 683*.)

59793. *Duc de Malakoff*. Berries enormous, sometimes weighing $1\frac{1}{2}$ ounces; variable, cockscombed, dull red; seeds prominent; flesh very juicy, and with a sort of mulberry flavor. Vigorous, moderately productive, and as hardy as any foreign kind. Said to be a cross of a Chilean variety and the British Queen. (*J. M. Merrick, jr., The Strawberry, 1870, p. 78*.)

59794. *Edouard Lefort*. A distinct, very early variety, very productive. Fruit large, shaped like the Hautbois strawberry, scarlet; flesh red, sweet, and juicy. (*Vilmorin-Andrieux & Co. catalogue*.)

59795. *Eléonore*. A late variety; fruit oblong, very dark red; flesh pale scarlet, not very juicy, but sugary and fragrant. (*Robinson, Vegetable Garden, p. 698*.)

59796. *France-Russie*. Fruit large, similar to that of Sharpless. (*Millet & Fils catalogue*.)

59797. *Général Chanzy*. Very vigorous; fruit usually very large and long, very dark red; flesh blood red, juicy, sugary. (*Robinson, Vegetable Garden, p. 685*.)

59798. *Général de Castelnau*. An everbearing, very productive variety. Fruit larger than that of *La Perle*, dark red, very juicy, sweet, and firm. (*Grandes Roseraies du Val de Loire catalogue*.)

59799. *Gloire du Mans*. Fruit very large, elongated, humpbacked. (*Millet & Fils catalogue*.)

59800. *Helvetia*. Fruit long; flesh white and melting, of good quality. (*Millet & Fils catalogue*.)

59801. *Jarles*. Fruit very large, of good quality. An improved *Docteur Morère*. (*Baetel Freres, 1919-20 catalogue*.)

59802. *Jeanne d'Arc*. An everbearing variety resembling *St. Joseph*, but more vigorous and with larger fruits. (*Robinson, Vegetable Garden, p. 702*.)

59803. *Jubilé*. Fruit large; flesh firm, sweet. A vigorous early variety. (*Rivoire Père & Fils catalogue*.)

59804. *L'Aurore*. Very early, with large round pink fruits of good quality. (*Millet & Fils catalogue*.)

59777 to 59840—Continued.

59805. *La Parisienne*. Fruits glossy red, very large, round, flattened, with ribs; flesh melting, sweet. (*Barbier & Co. catalogue.*)
59806. *La Brune*. Fruit very large, dark red, elongated, of delicious flavor; easily detached from the calyx. (*Millet & Fils catalogue.*)
59807. *Londres*. Fruits red, conical, the size of a small egg; flesh rosy, juicy, melting, acid-sweet. A very vigorous, late variety. (*Millet & Fils catalogue.*)
59808. *Madame Eugène Delannay*.
59809. *Madame Meslé*. A very vigorous giant variety with enormous brilliant vermilion-red fruits with pink flesh; a good commercial variety of large yield. Season medium. (*Millet & Fils catalogue.*)
59810. *Madame Moutot*. A giant variety, with enormous, spherical red fruits; flesh light salmon. Quality excellent. (*Millet & Fils catalogue.*)
59811. *Marguerite Lebreton*. A very early variety, with abundant elongated fruits. One of the best forcing varieties. (*Millet & Fils catalogue.*)
59812. *Marguerite Chabert*. Fruit conical, very large, dark red; flesh pink. (*Rivoire Père & Fils catalogue.*)
59813. *Merveille de Bon-Secours*. A cross between Saint-Antoine de Padoue and La Perle. Plants very vigorous, productive and hardy. Fruits large, conical, red; flesh juicy, perfumed, of excellent flavor. (*Vilmorin-Andrieux & Co. catalogue.*)
59814. *Merveille de Caen*. A highly recommended variety; everbearing, with excellent fruits. (*Millet & Fils catalogue.*)
59815. *Monsieur Sclarandis*. Fruits very large, round, with vinous, sweet, very juicy flesh. (*Millet & Fils catalogue.*)
59816. *Monstrueuse Caennaise*. A very vigorous, large-fruited variety, with highly colored fruit. (*Millet & Fils catalogue.*)
59817. *Monstrueuse Hautbois*. A variety with exceedingly large fruits, resembling the raspberry in flavor. Very productive. (*Millet & Fils catalogue.*)
59818. *Pain de Sucre*. Medium-sized plant, very productive. Fruit medium to large, elongated, becoming an inch and a half long, brilliant red; flesh firm, rosy, juicy, and sweet. (*Vilmorin-Andrieux & Co. catalogue.*)
59819. *Passé-Edouard*. An excellent variety, superior to Edouard Lefort. (*Millet & Fils catalogue.*)
59820. *Perle Rouge*. Fruits medium size, ovoid; flesh clear red, of first quality. (*La Vie Agricole et Rurale*, vol. 22, no. 17, April 28, 1923, p. 288.)
59821. *Potager de Versailles*. Fruits bright red, fan-shaped, of good quality. (*Millet & Fils catalogue.*)
59822. *Président Poincaré*. Fruit orange-red; flesh white. Everbearing. (*Millet & Fils catalogue.*)
59823. *Princesse Marie-Clotilde*. Plant vigorous. Fruit round, with firm flesh. (*Millet & Fils catalogue.*)
59824. *Reine Louise*. Fruit dark red, elongated. (*Millet & Fils catalogue.*)
59825. *Rêve d'Été*. An interesting, everbearing variety, with fruits of good quality. (*Millet & Fils catalogue.*)
59826. *Suaris*. A vigorous variety, fruits pinkish white, large. (*Millet & Fils catalogue.*)

59777 to 59840—Continued.

59827. *Sulpice Barbe*. An especially fine variety, with round, flattened fruits. (*Millet & Fils catalogue.*)
59828. *Sybel*. Vigorous; fruits elongated, red; flesh firm, vinous, of good quality. (*Millet & Fils catalogue.*)
59829. *Tardive de Léopold*. Fruits very large, spherical, wine red. Season very late. (*Millet & Fils catalogue.*)
- 59830 to 59840. *RUBUS* spp. Rosaceæ. **Raspberry.**
59830. *All Summer*. Large crimson fruits of excellent quality, maturing in autumn. (*Barbier & Co. catalogue.*)
59831. *Colonel Wilder*. A variety with large, white, sweet, slightly acidulous fruits. (*Millet & Fils catalogue.*)
59832. *Congy*. Vigorous, with fine red fruits of excellent quality. (*Millet & Fils catalogue.*)
59833. *Couleur de Chair*. Fruits yellow, very large, with pinkish flesh. A good cropper. (*Barbier & Co. catalogue.*)
59834. *De Romainville*. A large red variety especially adapted for market purposes. (*Millet & Fils catalogue.*)
59835. *Feldbrunnen*. Fruit of enormous size, brilliant red, of exceptional quality. (*Millet & Fils catalogue.*)
59836. *Goliath*. A very vigorous grower, but of rather straggling habit; canes about 4 to 5 feet high; good cropper; berries fairly large, deep red, globular, having very large drupels, rather soft, of good flavor. Very great quantities of young vigorous canes are produced each season. (*Journal of the Royal Horticultural Society*, vol. 47, p. 47.)
59837. *Perpétuelle de Billard*. Fruits rather large, round, deep red; clusters long. Plants multiply rapidly.
59838. *Pilate*. Fruit red, large, elongated, moderately sweet. Quality good. (*Millet & Fils catalogue.*)
59839. *Souvenir de Désiré Bruneau*. A vigorous grower, rather straggling, canes about 4 feet high, a heavy cropper, berries large in large clusters, bluntly conical, firm, deep carmine, of good flavor. (*Journal of the Royal Horticultural Society*, vol. 47, p. 49.)
59840. *Sucrée de Metz*. Fruits clear yellow, large, of good quality. (*Barbier & Co. catalogue.*)
- 59841 to 59857. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. **Soy bean.**
- From Omagari, Akita Ken, Japan. Seeds presented by Isaburo Nagai, director, Riku-U substation, Agricultural Experiment Station. Received May 15, 1924.
- Introduced for soy-bean specialists.
59841. No. 1. *Nezumisaya*.
59842. No. 2. *Gizuka*.
59843. No. 3. *Sennari*.
59844. No. 4. *Tamazukuri*.
59845. No. 5. *Sohgetsu*.
59846. No. 6. *Fukui-shiro*.
59847. No. 7. *Shirohachikoku*.
59848. No. 8. *Akagara*.
59849. No. 9. *Enoki*.

59841 to 59857—Continued.

59850. No. 10. *Gowari*.
 59851. No. 11. *Sennari*.
 59852. No. 12. *Hadaka*.
 59853. No. 13. *Akasaya* (7).
 59854. No. 14. *Yagi* (3).
 59855. No. 15. *Takiya* (5).
 59856. No. 16. *Onihadaka*.
 59857. No. 17. *Dozan*.

59858 to 59933. IPOMOEA BATATAS (L.)

Poir. Convolvulaceæ.

Sweet potato.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, Agronomist in Charge, Agricultural Experiment Station. Received March 4, 1924.

Introduced for testing by horticulturists experimenting with sweet-potato varieties.

Numbers 7 to 429 refer to seedlings grown at the station.

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| 59858. No. 7. | 59888. No. 153. |
| 59859. No. 14. | 59889. No. 159. |
| 59860. No. 15. | 59890. No. 169. |
| 59861. No. 18. | 59891. No. 171. |
| 59862. No. 24. | 59892. No. 179. |
| 59863. No. 26. | 59893. No. 194. |
| 59864. No. 27. | 59894. No. 203. |
| 59865. No. 29. | 59895. No. 213. |
| 59866. No. 30. | 59896. No. 217. |
| 59867. No. 31. | 59897. No. 223. |
| 59868. No. 34. | 59898. No. 226. |
| 59869. No. 36. | 59899. No. 230. |
| 59870. No. 40. | 59900. No. 238. |
| 59871. No. 41. | 59901. No. 251. |
| 59872. No. 44. | 59902. No. 253. |
| 59873. No. 52. | 59903. No. 255. |
| 59874. No. 54. | 59904. No. 263. |
| 59875. No. 55. | 59905. No. 300. |
| 59876. No. 60. | 59906. No. 316. |
| 59877. No. 76. | 59907. No. 319. |
| 59878. No. 81. | 59908. No. 360. |
| 59879. No. 82. | 59909. No. 361. |
| 59880. No. 85. | 59910. No. 372. |
| 59881. No. 92. | 59911. No. 375. |
| 59882. No. 95. | 59912. No. 377. |
| 59883. No. 110. | 59913. No. 386. |
| 59884. No. 111. | 59914. No. 389. |
| 59885. No. 112. | 59915. No. 379. |
| 59886. No. 117. | 59916. No. 410. |
| 59887. No. 141. | 59917. No. 429. |
| 59918 to 59933. Pumpkin yam. | |
| 59918. Hill No. 1. | 59923. Hill No. 6. |
| 59919. Hill No. 2. | 59924. Hill No. 7. |
| 59920. Hill No. 3. | 59925. Hill No. 8. |
| 59921. Hill No. 4. | 59926. Hill No. 9. |
| 59922. Hill No. 5. | 59927. Hill No. 10. |

59858 to 59933—Continued.

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| 59928. Hill No. 11. | 59931. Hill No. 14. |
| 59929. Hill No. 12. | 59932. Hill No. 15. |
| 59930. Hill No. 13. | 59933. Mixed hills. |

**59934 to 60167. ZEA MAYS L. Poaceæ.
Corn.**

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 26, 1924. Notes by Messrs. Richey and Emerson.

- 59934 to 59936. El Verjel, Angol, Chile. March 17, 1924. Two ears, dark yellow flint, much mixed in type; from field. Ears 8 and 9 inches long; 12 rows of kernels each; nearly mature. Plants 5½ to 6½ feet high.
59934. No. 5. Mixed. 59936. No. 5b.
59935. No. 5a.
- 59937 to 59939. Towards "Los Alpes," near El Verjel, Angol, Chile. March 7, 1924. Two ears, light yellow flint; from field. Ears 8 inches long; 12 rows of kernels each. Possibly of Indian origin.
59937. No. 6. Mixed. 59939. No. 6b.
59938. No. 6a.
- 59940 to 59944. Northwest from Gorbea, Chile. March 12, 1924. Five ears of small-eared flint, yellow and white with occasional purple seeds. Bought from an Indian on the edge of town, plants not seen. Ears 5 to 7 inches long, mostly eight rows of kernels, but strongly inclined to be irregular.
59940. No. 7a. 59943. No. 7d.
59941. No. 7b. 59944. No. 7e.
59942. No. 7c.
- 59945 and 59946. South of Gorbea, from the farm of Francisco Huichalaf. March 13, 1924. Two ears of early Indian flint, yellow and white mixed, with a few blue seeds and some with pericarp pattern. Plants 4½ to 5½ feet tall, mature, and nearly dry 130 days after planting.
59945. No. 8a. 59946. No. 8b.
- 59947 to 59949. South of Gorbea, from the farm of Francisco Huichalaf. March 13, 1924. Two ears of yellow flint, probably not of Indian origin; from a different field from No. 8 [S. P. I. No. 59945]. Ears 6 to 8 inches long, 10 to 14 rows of kernels. Plants 6 to 7 feet high, mature but not dry.
59947. No. 9. Mixed. 59949. No. 9b.
59948. No. 9a.
- 59950 to 59952. Quitrante, Chile. March 13, 1924. From the farm of Firmin Velasquez. Three ears taken from a braid. Probably the same as No. 8 [S. P. I. No. 59945].
59950. No. 10a. 59952. No. 10c.
59951. No. 10b.
- 59953 to 59957. From Juan Huenuhueque, near Curacautin, Chile. March 14, 1924. Five ears of flint maize. Corn already harvested. Plants about 4 feet high.
59953. No. 11a. 59956. No. 11d.
59954. No. 11b. 59957. No. 11e.
59955. No. 11c.
- 59958 to 59961. East of Curacautin, Chile. March 14, 1924. Four ears of yellow and white flint, some blue kernels. Ears 4 to 5 inches long. Frost in January killed a neighbor's corn, but this escaped. Corn already harvested.

59934 to 60167—Continued.

59958. No. 12a. 59980. No. 12c.
 59959. No. 12b. 59961. No. 12d.
 59962 to 59969. Curacautin, Chile. March 14, 1924. Seven ears of yellow and white flint with some blue seeds; from a farm. Ears 4 to 6 inches long, one ear with a variegated pericarp. Already harvested.
 59962. No. 13. Mixed. 59967. No. 13e.
 59963. No. 13a. 59968. No. 13f.
 59964. No. 13b. 59969. No. 13g.
 59965. No. 13c.
 59966. No. 13d. Variegated pericarp.
 59970. No. 14. La Paz, Bolivia. March 14, 1924. Bulk seed bought in the market.
 59971. No. 15. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market. The various colored kernels are smaller than No. 14 [S. P. I. No. 59970].
 59972. No. 16. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market; looks like Peruvian.
 59973. No. 17. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market. Yellow flour with some speckling.
 59974. No. 18. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market. Small-kernelled yellow dent, said to have been imported from Concepcion, Chile.
 59975. No. 19. La Paz, Bolivia. March 24, 1924. Bulk seed bought in market. Yellow flour with some kernels having other colors; looks like Peruvian corn.
 59976. No. 20. La Paz, Bolivia. March 24, 1924. Bulk seed bought in market. White flour; looks like Peruvian corn.
 59977. No. 21. La Paz Valley. March 24, 1924. "Maiz Negro Oscuro." From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajés; altitude about 11,000 feet. Crop of 1922-23. Dark purple, nearly black. Purple cob. Ear 3½ inches long with 12 rows of pointed kernels. Ear conical. Plants said to be 2½ to 3 meters high, probably require about six months to mature.
 59978. No. 22. La Paz Valley. March 24, 1924. From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajés; altitude about 11,000 feet. Crop of 1922-23. One ear yellow flint 2½ inches long with irregular rows; seeds small; cob red. Plants said to be small and to require about four months to mature.
 59979. No. 23. La Paz Valley. March 24, 1924. From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajés; altitude about 11,000 feet. Crop of 1922-23. One ear of white corn 3¾ inches long, with six to eight rows of large kernels. Said to require about six months to mature.
 59980 and 59981. La Paz Valley. March 29, 1924. From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajés; altitude about 11,000 feet. Crop of 1922-23. Two ears of white-rice pop corn about 4 inches long, said to have come originally from Copocabana.
 59980. No. 24a. 59981. No. 24b.
 59982. No. 25. La Paz, Bolivia. March 27, 1924. Maiz Amarilla. Altitude about 11,700 feet. Bulk seed presented by Luis Crespe. Contains some sweet-corn kernels. Plants said to be 7 to 9 feet tall and to require six months or more to mature.

59934 to 60167—Continued.

59983. No. 26. La Paz, Bolivia. March 27, 1924. Maiz Morado. Altitude 11,700 feet. Bulk seed presented by Luis Crespe. Crop of 1922-23. Plants said to be 7 to 9 feet tall and to require about six months or more to mature.
 59984. No. 27. La Paz, Bolivia. March 27, 1924. Maiz Gris. Altitude 11,700 feet. Bulk seed presented by Luis Crespe. Of various colors and patterns. Crop of 1922-23. Plants said to be 7 to 9 feet tall and to require six months or over to mature.
 59985 to 59987. March 29, 1924. From a farm about 7 miles below Obrajés, Bolivia; altitude about 11,000 feet. Three ears of small-seeded yellow flint. Ears about 3 inches long with red cobs. Crop of 1922-23. Said to be a short-season maize maturing in about four months.
 59985. No. 28a. 59987. No. 28c.
 59986. No. 28b.
 59988 and 59989. March 29, 1924. From a farm about 7 miles below Obrajés, Bolivia; altitude about 11,000 feet. Maiz Griz. Two ears of various colors and patterns. Ears about 4 inches long with large seeds.
 59988. No. 29a. 59989. No. 29b.
 59990 and 59991. March 29, 1924. Maiz Blanco. From a farm about 7 miles below Obrajés, Bolivia; altitude 11,000 feet. This seed is from the same field as No. 29 [S. P. I. No. 59988-89].
 59990. No. 30a. 59991. No. 30b.
 59992 and 59993. March 29, 1924. Maiz Rojo. From a farm about 7 miles below Obrajés, Bolivia; altitude about 11,000 feet. From the same field as No. 29 [S. P. I. No. 59988-89].
 59992. No. 31a. 59993. No. 31b.
 59994. No. 32. La Paz, Bolivia. March 29, 1924. One ear 2½ inches long with 12 rows of kernels which are white and yellow with a pink blush. The plants are of the purple type and grow 3 or 4 feet high, making a very thick stand on the poor soil of the American Institute.
 59995. No. 33. March 29, 1924. One ear with very large seeds from an Indian field down the La Paz Valley about 5½ miles below Obrajés, Bolivia. Altitude about 11,000 feet and soil very poor and stony.
 59996 and 59997. La Paz, Bolivia. March 27, 1924. Two ears 4 inches long with 12 rows of large white kernels, grown on the grounds of the American Institute. Altitude 12,200 feet. Plants 4 to 5 feet tall; sun-red type.
 59996. No. 34a. 59997. No. 34b.
 59998 to 60000. La Paz, Bolivia. March 27, 1924. Three ears 2½ inches long with 12 to 14 rows of white kernels. Grown in the garden of an Aymará Indian in poor soil on the north slope of a hillside; altitude 12,200 feet.
 59998. No. 35a. 60000. No. 35c.
 59999. No. 35b.
 60001 to 60012. La Paz, Bolivia. March 27, 1924. Twelve ears 2 to 4 inches long with medium-sized kernels of various colors. The field belonged to an Aymará Indian; it was planted September 4, 1923, and just harvested.
 60001. No. 36a. 60007. No. 36g.
 60002. No. 36b. 60008. No. 36h.
 60003. No. 36c. 60009. No. 36i.
 60004. No. 36d. 60010. No. 36k.
 60005. No. 36e. 60011. No. 36l.
 60006. No. 36f. 60012. No. 36m.

59934 to 60167—Continued.

60013. No. 37. La Paz, Bolivia. March 31, 1924. One ear about 3 inches long with 12 rows of pink kernels and a purple cob. Grown in an Indian garden at 12,600 feet altitude.

60014 to 60018. La Paz, Bolivia. March 27, 1924. Five ears of red, yellow, and variegated flint. Ears about 2 inches long with 12 to 16 rows of small kernels. Grown in an Indian garden on a hillside, at about 12,600 feet altitude and said to mature in about four months.

60014. No. 38a. 60017. No. 38d.

60015. No. 38b. 60018. No. 38e.

60016. No. 38c.

60019. No. 40. Urcu Mission, Calca, Peru. Bulk seed of native white corn. Large seeded, Cuzco type.

60020. No. 41. Urcu Mission, Calca, Peru. Bulk seed of native yellow corn. Large seeded, Cuzco type.

60021. No. 42. Urcu Mission, Calca, Peru. Bulk seed of native red corn. Large seeded, Cuzco type.

60022. No. 43. Urcu Mission, Calca, Peru. Native variegated corn. Bulk seed, large seeded of the Cuzco type.

60023. No. 44. Urcu Mission, Calca, Peru. Corn from the United States grown at the mission for six generations. Said to have been a yellow flint originally, and Mr. Payne thinks the chances of crossing with local corn are negligible.

60024. No. 45. Urcu Mission, Calca, Peru. Seed obtained by crossing the native yellow corn of the Cuzco type and Reid Yellow Dent. This corn represents the fifth and sixth generation of the cross grown at Calca.

60025. No. 46. Urcu Mission, Calca, Peru. Seed obtained by crossing the native yellow corn of the Cuzco type and Leaming. This corn represents the fifth or sixth generation of the cross grown at Calca.

60026. No. 47. Urcu Mission, Calca, Peru. Seed obtained by crossing the native yellow corn of the Cuzco type and some unknown sort of yellow dent from the United States. This corn represents the fifth or sixth generation of the cross grown at Calca.

60027. No. 48. Urcu Mission, Calca, Peru. Seed obtained by crossing a native yellow corn of the Cuzco type and a yellow flint from the Dakotas, possibly Gehu. This corn represents the fifth or sixth generation of the cross grown at Calca.

60028 and 60029. Urcu Mission, Calca, Peru. Two ears of large-seeded speckled corn of the Cuzco type. Said to be quite early.

60028. No. 52a. 60029. No. 52b.

60030. No. 54. Urcu Mission, Calca, Peru. Ear of large-seeded black corn. Stalks said to be very sweet. Pericarp deep red, aleurone colorless.

60031. No. 55. Urcu Mission, Calca, Peru. Ear of large-seeded white (Ivory) corn.

60032 to 60075. Urcu Mission, Calca, Peru. Forty-three ears of higher altitude maize, grown at from 12,000 to 12,500 feet. These represent the earliest types in the vicinity. Ears of various colors.

60032. No. 56. Mixed. 60036. No. 56d.

60033. No. 56a. 60037. No. 56e.

60034. No. 56b. 60038. No. 56f.

60035. No. 56c. 60039. No. 56g.

59934 to 60167—Continued.

60040. No. 56h. 60058. No. 56aa.

60041. No. 56i. 60059. No. 56ab.

60042. No. 56k. 60060. No. 56ac.

60043. No. 56l. 60061. No. 56ad.

60044. No. 56m. 60062. No. 56ae.

60045. No. 56n. 60063. No. 56af.

60046. No. 56o. 60064. No. 56ag.

60047. No. 56p. 60065. No. 56ah.

60048. No. 56q. 60066. No. 56ai.

60049. No. 56r. 60067. No. 56ak.

60050. No. 56s. 60068. No. 56al.

60051. No. 56t. 60069. No. 56am.

60052. No. 56u. 60070. No. 56an.

60053. No. 56v. 60071. No. 56ao.

60054. No. 56w. 60072. No. 56ap.

60055. No. 56x. 60073. No. 56aq.

60056. No. 56y. 60074. No. 56ar.

60057. No. 56z. 60075. No. 56as.

60076 and 60077. Ollantaytambo, Peru. April 10, 1924. Two ears of corn, one yellow with the pericarp reddish toward the tips of the seeds and the other with cherry pericarp. Plants about 4 to 5 feet high; collected at an altitude of 7,000 feet.

60076. No. 57a. Yellow.

60077. No. 57b. Cherry.

60078. No. 58. Sicuani, Peru. April 12, 1924. Bulk seeds from an Indian market. Various colors, mostly red and purple. Crop of 1922-23. Said to have been grown at Arequipa, Peru, at 7,500 feet altitude.

60079. No. 59. Sicuani, Peru. April 12, 1924. Bulk seeds from the Indian market. Various colors, mostly yellow. Crop of 1922-23. Said to be locally grown at 11,659 feet altitude.

60080. No. 60. Sicuani, Peru. April 12, 1924. Bulk seeds from store, mostly yellow. Crop of 1922-23. Said to have been grown at Paucartambo, near Cuzco, Peru.

60081 to 60085. Sicuani, Peru. April 12, 1924. Five ears of red and yellow flint corn grown on a farm south of Sicuani at 11,650 feet altitude.

60081. No. 61a. 60084. No. 61d.

60082. No. 61b. 60085. No. 61e.

60083. No. 61c.

60086 to 60095. Sicuani, Peru. April 12, 1924. Ten ears of various colors grown on a farm north of Sicuani at 11,450 feet altitude.

60086. No. 62a. 60091. No. 62f.

60087. No. 62b. 60092. No. 62g.

60088. No. 62c. 60093. No. 62h.

60089. No. 62d. 60094. No. 62i.

60090. No. 62e. 60095. No. 62k.

60096 to 60099. Sicuani, Peru. April 12, 1924. Four ears of various colors and mixed type grown on the farm of a Quechua Indian north-east of Sicuani. The seeds from which this crop was grown came from Cuzco.

60096. No. 63a. 60098. No. 63c.

60097. No. 63b. 60099. No. 63d.

59934 to 60167—Continued.

60100 to 60103. Sicuani, Peru. April 12, 1924. Four ears of corn bought in an Indian market and said to have come from Cusipata, Peru.

60100. No. 64a. 60102. No. 64c.

60101. No. 64b. 60103. No. 64d.

60104 to 60106. Sicuani, Peru. April 12, 1924. Three ears, red and yellow, bought in an Indian market; said to have been grown locally.

60104. No. 65a. 60106. No. 65c.

60105. No. 65b.

60107 to 60115. Sicuani, Peru. April 12, 1924. Nine ears bought in an Indian market, said to have been grown near San Pabla.

60107. No. 66a. 60112. No. 66f.

60108. No. 66b. 60113. No. 66g.

60109. No. 66c. 60114. No. 66h.

60110. No. 66d. 60115. No. 66i.

60111. No. 66e.

60116 to 60120. Sicuani, Peru. April 12, 1924. Five ears from an Indian market, said to have come from Asomayo, Peru, 4 leagues west of Chuquiahua.

60116. No. 67a. 60119. No. 67d.

60117. No. 67b. 60120. No. 67e.

60118. No. 67c.

60121 to 60123. Cuzco, Peru. April, 1924. Two ears of sweet corn and one ear of mixed sweet and flour corn from Sr. Ochoa.

60121. No. 68a. 60123. No. 68c.

60122. No. 68b.

60124 to 60127. Cuzco, Peru. April, 1924. Four ears of white and colored corn from Sr. Ochoa.

60124. No. 69a. 60126. No. 69c.

60125. No. 69b. 60127. No. 69d.

60128. No. 70. Near Arequipa, Peru. April, 1924. *Chicha maize*. From Elias C. Bedregal. Seeds very large, red and purple. Matures in about six months. Altitude 7,000 feet.

60129. No. 71. Arequipa, Peru. April, 1924. *Chulpe maize*. From Elias C. Bedregal. This type is boiled and then dried. Seeds medium size, yellow, some are wrinkled (sugar type). Requires about seven months to mature.

60130. No. 72. Arequipa, Peru. April, 1924. *Amarillo maize*. From Elias C. Bedregal. Seeds intermediate in size between those of No. 70 (S. P. I. No. 60128) and No. 71 (S. P. I. No. 60129). The mixture of nonyellow seeds in this sample is said to be artificial.

60131. No. 73. Calea, Peru. April, 1924. Cuzco type, yellow-dent cross F-51, from T. E. Payne.

60132 to 60136. Huancayo, Peru. April 27, 1924. Five ears of red variegated maize, purchased in the Indian market and said to have come from within a few miles of town; altitude 10,700 feet.

60132. No. 74a. 60135. No. 74d.

60133. No. 74b. 60136. No. 74e.

60134. No. 74c.

60137. No. 75. Huancayo, Peru. April 27, 1924. Six ears of yellow, rice-pointed pop corn, bought in an Indian market. Said to have come from within a few miles of town; altitude 10,700 feet.

60138. No. 76. Huancayo, Peru. April 27, 1924. White maize. Bulk seeds from the Indian market, said to have been grown within a few miles of town; altitude 10,700 feet.

59934 to 60167—Continued.

60139 to 60143. Huancayo, Peru. April 27, 1924. Five ears of brown maize (one with red cob) bought in the Indian market.

60139. No. 77a. 60142. No. 77d.

60140. No. 77b. 60143. No. 77e.

60141. No. 77c.

60144 to 60151. Huancayo, Peru. April 27, 1924. Eight ears of red, purple, and rose-colored maize. From the Indian market.

60144. No. 78a. 60148. No. 78e.

60145. No. 78b. 60149. No. 78f.

60146. No. 78c. 60150. No. 78g.

60147. No. 78d. 60151. No. 78h.

60152. No. 79. Huancayo, Peru. April 27, 1924. Bulk seed of purple maize from the Indian market. Said to have been grown a few miles from town; altitude 10,700 feet.

60153 to 60156. Huancayo, Peru. April 27, 1924. Four ears, white, splashed with purple. One with rose-colored bands around kernels. Bought in the Indian market and said to have come from within a few miles of town; altitude 10,700 feet.

60153. No. 80a. 60155. No. 80c.

60154. No. 80b. 60156. No. 80d.

60157 and 60158. Lima, Peru. April, 1924. Two ears of yellow maize from Escuela Nacional de Agricultura. Grown locally.

60157. No. 81a. 60158. No. 81b.

60159 and 60160. Lima, Peru. April, 1924. Yellow maize. Two ears, one with purple cob from Escuela Nacional de Agricultura. Grown locally.

60159. No. 82a. 60160. No. 82b.

60161 and 60162. Lima, Peru. April, 1924. Purple maize. Two ears bought in a store. Said to have come from Arequipa, Peru.

60161. No. 83a. 60162. No. 83b.

60163 and 60164. Atucha, Province of Buenos Aires, Argentina, April, 1924. *Pinmontes* flint, two ears.

60163. No. 84a. 60164. No. 84b.

60165 and 60166. Casilda, Argentina. April, 1924. *Colorado Casilda* from Escuela Nacional de Agricultura.

60165. No. 85a. 60166. No. 85b.

60167. No. 86. Pontant, Province of Buenos Aires, Argentina. April, 1924. *Quaranton* maize from the experimental farm. Bulk sample.

60168 and 60169. ORNITHOGALUM THYRSOIDES Jacq. Liliaceae.

From Pretoria, Transvaal, Union of South Africa. Bulbs presented by I. B. Pole Evans, chief, Division of Botany. Received May 26, 1924.

In South Africa, where this bulbous ornamental is native, it is known as one of the "chinkerichees." The globose bulb is about 2 inches thick, and the five or six very narrow leaves are 6 inches to a foot in length. The flowers, sometimes an inch long under cultivation, are borne in rather dense racemes on a scape about a foot high. In a dried condition these make excellent "everlasting flowers."

60168. A pure-white variety.

60169. A black-eye variety.

60170. CRACCA CANDIDA (DC.) Kuntze
(*Tephrosia candida* DC.). **Fabaceæ.**

From Dominica, British West Indies. Seeds presented by the Botanic Gardens, Dominica, through Alfred Keys, Bureau of Plant Industry. Received May 21, 1924.

The large terminal and lateral clusters of reddish or white flowers of this low Himalayan shrub make it worthy of trial as an ornamental in the warmer parts of the United States. The branches are slender and covered with a velvety pubescence, while the smooth green leaves, 6 to 8 inches long, have gray-silky lower surfaces.

For previous introduction, see S. P. I. No. 55678.

60171. NEPHELIUM MUTABILE Blume.
Sapindaceæ. Pulasan.

From Buitenzorg, Java. Seeds presented by P. J. S. Cramer, director, General Experiment Station, Department of Agriculture. Received June 5, 1924.

The pulasan is closely related to the lychee and is native to the Malayan region. It is tropical in its requirements and will probably not succeed in the United States; it merits cultivation, however, in Porto Rico, the Canal Zone, and elsewhere.

The tree attains a height of about 30 feet; the leaves are compound, with two to four pairs of oblong to elliptic, acuminate leaflets 5 to 10 inches long. The red fruit, commonly borne in small clusters, is about the size of a walnut; the pericarp is thick and covered with short, blunt, stout fleshy spines. The flesh (properly the aril) is translucent, whitish, juicy, and of sweet, slightly acidulous flavor; it contains a single oblong seed of large size.

For previous introduction, see S. P. I. No. 56781.

60172 to 60174.

From Stavanger, Norway. Plants presented by Thoralf Bryne, Brynes Rosen-Og Planteskole. Received June 3, 1924.

Introduced for horticulturists engaged in small-fruit breeding.

60172. RIBES sp. Grossulariaceæ.

Studenken au Lorgus. This is my new hybrid red currant; it is a very late variety with long trusses and is chiefly adapted for preserves. (Bryne.)

60173. RUBUS sp. Rosaceæ. Raspberry.

Paradise berry. A large red raspberry, almost as large as the largest variety known in cultivation, which is the English variety "The Royal." (Bryne.)

For previous introduction, see S. P. I. No. 56145.

60174. RUBUS sp. Rosaceæ. Raspberry.

An unnamed Norwegian raspberry.

60175 to 60184. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). **Fabaceæ.**
Soy bean.

From Pyenyang, Chosen. Seeds presented by D. N. Lutz. Received May 26, 1924. Notes by Mr. Lutz.

Introduced for soy-bean specialists.

60175. No. 1. *Small Yellow.* Used for bean sprouts; yield small.

60176. No. 2. May be the same as No. 1 [S. P. I. No. 60175]. Used for bean sprouts; yield small.

60177. No. 3. *Small Black* ("Rat Eye"). Used for bean sprouts and said to be used as medicine; yield small.

60178. No. 4. *Green.* Used for bean sprouts; yield fairly good.

60175 to 60184—Continued.

60179. No. 5. *Small Black* ("Rat Eye"). May be the same as No. 3 [S. P. I. No. 60177]. Used for bean sprouts and said to be used as medicine. Yield and plants small.

60180. No. 6. *Medium Yellow.* Most widely grown type in Chosen. High yield. Used for stock feed and for making bean sauce "soy." Cheaper than other varieties.

60181. No. 7. *Black Medium.* Not widely grown and of rather low yield. Used roasted as human food.

60182. No. 8. *Large Yellow.* A widely-grown variety of high yield. Used for human food; also fed to stock.

60183. No. 9. *Brown.* A rather rare variety. The sample as purchased was mixed with black beans.

60184. No. 9a. Mixed.

60185 to 60187. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). **Fabaceæ.**
Soy bean.

From Sapporo, Japan. Seeds presented by K. Abiko, agronomist, Hokkaido Agricultural Experiment Station. Received May 31, 1924. Notes by Mr. Abiko.

Introduced for soy-bean specialists.

60185. *Aotairu.* Used as meal and for green manure.

60186. *Ohyachi.* Used in industry and as food.

60187. *Tsurunoko.* Used in industry and as food.

60188. ANEMONE JAPONICA (Thunb.)
Sieb. and Zucc. Ranunculaceæ.
Japanese anemone.

From Stuttgart, Germany. Plants purchased from Wilhelm Pfitzer. Received May 31, 1924.

Var. *Schneekönigin.* This new anemone variety, originated by Mr. Pfitzer, may be described in general as an improved Luise Uhink, according to Möllers Deutsche Gärtner-Zeitung for November 1, 1923. The snow-white flowers, about 4 inches across, are produced more freely and on more upright stems than those of Luise Uhink and are made intensely striking by the dark-green background of the handsome foliage.

60189. INCARVILLEA DELAVAYI Bur.
and Franch. Bignoniaceæ.

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received November 8, 1923. Numbered June, 1924.

Var. *Przewalskii.* A handsome hardy Chinese perennial plant with attractive pinnate foliage and showy yellow flowers. It is said to thrive best in a light, sandy loam, with plenty of sunshine.

60190 to 60200. HIBISCUS CANNABINUS
L. Malvaceæ. Ambari hemp.

From New York City. Seeds presented by Charles O. Tappan. Received May 24, 1924. Notes by Mr. Tappan.

A collection of varieties grown in India and Brazil for cordage, introduced for specialists experimenting with fiber plants.

60190 to 60197. From the Imperial Economic Botanist, Pusa.

60190. No. 1. 60193. No. 4.

60191. No. 2. 60194. No. 5.

60192. No. 3. 60195. No. 6.

60190 to 60200—Continued.

60196. No. 7. 60197. No. 8.

60198 and 60199. From Gogu, Circars, Coimbatore Experimental Farm, India.

60198. No. 1. 60199. No. 2.

60200. From Brazil.

60201. ESENBECKIA LEIOCARPA Engl. Rutaceæ.

From Brazil. Seeds presented by F. L. Rhodes, American Telephone & Telegraph Co., New York City. Received May 7, 1924.

An erect, medium-sized tree from the forests of southeastern Brazil. The straight trunk is often branchless for a considerable height from the ground, a characteristic which suggests its use as pole timber. In Brazil the clear yellow wood is used for railway ties and for general construction. Coming from the cooler parts of Brazil, this tree might succeed in the southern portion of the United States.

60202 and 60203. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Fukuoka, Japan. Seeds presented by Dr. Mitsunaga Fujioka, Kyushu Imperial University. Received May 15, 1924.

Locally developed varieties introduced for soy-bean specialists.

60202. Hakkoku. 60203. Toppa.

60204 to 60207.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received May 15, 1924. Notes by Mr. Rock.

60204 and 60205. HORDEUM spp. Poaceæ. Six-rowed barley.

Garthok, eastern Tibet, February, 1924. The two best grades of barley from the high plateau of eastern Tibet, where they grow at an altitude of 10,000 feet or more.

60204. HORDEUM VULGARE COELESTE L.

Grade 1. This barley sheds its hull with the awn; the latter does not break off, leaving the hull attached, as is the case with American barley. The grain is large and pure white. This grade is probably adapted to the uplands of the central western part of the United States.

60205. HORDEUM VULGARE COELESTE L.

Grade 2. A black barley from the same region as grade 1 [S. P. I. No. 60204].

60206. RHODODENDRON sp. Ericaceæ.

No. 11324. November, 1923. A shrub 6 feet high found on the slopes of Mount Peima, Mekong-Yangtze Divide, at 14,000 feet altitude. The elliptical-oblong leaves are covered with soft pale-brown tomentum; the flowers were not seen.

60207. RHODODENDRON ARALIAEFORME Balf. f. and Forrest. Ericaceæ.

Nos. 11326 (fruit), 9269 (flowers). November, 1923. A shrub 8 feet high found on the alpine slopes of Mount Peima at 13,000 feet altitude. The oval leaves are rounded at both ends, golden yellow beneath, and glabrous; the flowers are rich purplish pink.

60208 to 60217. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Tottori, Japan. Seeds presented by Prof. Akio Kikuchi, College of Agriculture. Received May 16, 1924.

Introduced for soy-bean specialists.

60208. No. 1. Shakkinnashi.

60209. No. 2. Ichireu.

60210. No. 3. Mejiro.

60211. No. 4. Tamazukuri.

60212. No. 5. Omokage.

60213. No. 6. Tamanishiki.

60214. No. 7. Kuromame.

60215. No. 8. Uzura-daizu.

60216. No. 9. Natsu-daizu.

60217. No. 10. Natsu-cha-caizu.

60218 to 60224.

From Minchow, Kansu, China. Seeds presented by W. N. Ruhl. Received May 17, 1924. Notes by Mr. Ruhl.

60218. BRASSICA sp. Brassicaceæ.

No. 2. Oil from seeds used for cooking and illuminating.

60219. BRASSICA sp. Brassicaceæ.

No. 3. Grown extensively in southwestern Kansu. Oil is extracted from the seeds.

60220. GLEDITSIA SINENSIS Lam. Cæsalpinia-cæ.

No. 8. The pods are used as a soap substitute.

60221. LACTUCA SATIVA L. Cichoriaceæ. Lettuce.

No. 1. This variety grows to a height of 12 to 20 inches. The stalks and not the leaves are eaten. When creamed they are very palatable.

60222. PEUCEDANUM DECURSIVUM (Miquel) Maxim. Apiaceæ.

No. 6. Tan Kwei (Dan Gwey). An aromatic plant extensively cultivated in this section. The roots, the part used, are dug in late October.

60223. RHEUM OFFICINALE Baill. Polygonaceæ.

No. 7. This is the medicinal rhubarb, found all over Kansu. The roots are used medicinally, and sometimes the stalks are eaten.

60224. RHUS VERNICIFLUA Stokes (R. vernicifera DC.). Anacardiaceæ.

No. 4. The sap of this tree, when properly prepared, makes a very good varnish with a hard, lacquerlike finish.

60225. AGAVE sp. Amaryllidaceæ.

From Algiers, Algeria. Seeds presented by Dr. A. Trabut, Algiers, through L. H. Dewey, Bureau of Plant Industry. Received May 17, 1924.

These are seeds of an agave hybrid sent to me by Doctor Trabut. I believe that Doctor Trabut made this cross about 1908. The staminate parent was the sisal, *Agave sisalina*, and the pistillate parent was an undetermined species which he had received from San Luis Potosi, Mexico. His object in making the cross was to obtain a plant more resistant to cold than the sisal and yet having the thin straight leaves producing fiber similar to that of sisal. He has developed some varieties by selection from the numerous variations resulting from the cross, but thus far none are cultivated commercially for fiber production in Algeria. (Dewey.)

60226 to 60230. ALLIUM spp. Liliaceæ.

From Stockholm, Sweden. Seeds presented by Dr. Robert E. Fries, director, Botanical Garden. Received May 17, 1924.

Introduced for horticulturists studying the food value of wild species of Allium.

60228. ALLIUM FISTULOSUM L. Welsh onion.

A Siberian species which differs from the common onion in having no distinct bulb, but only an enlarged base or crown; the leaves are usually more clustered.

For previous introduction, see S. P. I. No. 58679.

60227. ALLIUM HYMENORRHIZUM Ledeb.

A perennial moisture-loving Russian species with linear leaves and purplish violet flowers.

60228. ALLIUM KARATAVIENSE Regel.

An herbaceous plant with very broad, ovate-oblong, flat leaves and pink flowers borne in dense, convex umbels. The scapes are about 6 inches high. Native to Turkestan.

For previous introduction, see S. P. I. No. 58874.

60229. ALLIUM ODORUM L.

This onion, which grows wild in Europe, is cultivated in Japan for its leaves, which are eaten as greens; in the spring the leaves are borne luxuriantly by the old bulbs, becoming about a foot in length.

For previous introduction, see S. P. I. No. 58879.

60230. ALLIUM POLYPHYLLUM Kar. and Kir.

A Siberian species, 1 to 2 feet high, with flat, linear leaves and rose-colored flowers.

60231. PHORMIUM TENAX Forst. Liliaceæ. New Zealand flax.

From Palmerston North, New Zealand. Seeds presented by G. Smerle, Palmerston North, through L. H. Dewey, Bureau of Plant Industry. Received May 17, 1924.

According to Mr. Smerle these seeds were collected from tall varieties cultivated near Palmerston North, and he recommends that an attempt be made to grow this tall form in the southern part of the United States. (Dewey.)

60232 to 60241. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Meguro, near Tokyo, Japan. Seeds presented by Dr. H. Shirasawa, director, Forest Experiment Station. Received May 19, 1924.

A collection of locally developed varieties introduced from Japan for department soy-bean specialists.

60232. Ao-Daizzu.**60237. Kurakake.****60233. Ao-Gozen.****60238. Kuro-Daizu.****60234. Goha.****60239. Oilan.****60235. Hokkado.****60240. Shiro-Gozen.****60236. Kimusume.****60241. Soden.****60242. RUBUS TURQUINENSIS Rydb. Rosaceæ.**

From Santiago de las Vegas, Cuba. Seeds presented by Gonzalo M. Fortun, director, Estación Experimental Agronómica. Received May 21, 1924.

A Cuban species which grows to a height of about 5 feet; the entire plant is densely hairy and armed with curved prickles about a quarter of an

inch long. The leaves are dark green, and the small berries are about half an inch in length. Introduced primarily for use in small-fruit breeding experiments.

60243 to 60251.

From Yihnsien, Shantung, China. Seeds presented by K. M. Gordon, South Shantung Industrial School. Received May 21, 1924. Notes by Mr. Gordon.

Introduced for soy-bean specialists.

60243 to 60250. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

60243. Big Green bean. Pods large, green; ripens in 90 to 100 days; grows 3 feet or more tall; oil content small. Used largely as a vegetable, both green and dried; can be roasted like peanuts. Vines coarse, not good for hay.

60244. Big White pod. Habit upright; pods white; ripens in 75 to 80 days; good bearer. Produces good oil and bean curd; used extensively for human and animal food; can be ground wet or dry.

60245. Black bean. Habit upright; pods black; ripens in 80 days; good bearer. Used extensively for stock feed, not used for oil because of dark color; ground wet, dry, or cooked.

60246. Black-Haired Yellow bean. Habit upright; pods dark, covered with black hairs; ripens in 80 days, good bearer, three to four beans to each pod; produces good oil and bean curd; can be ground wet, dry, or cooked. One of the best varieties in this district.

60247. Ch'a Tou. Habit upright; pods black, beans dark green; ripens in 80 days. Not used for oil, makes a stiff bean curd; ground with water and fed to animals.

60248. Hua Ch'a tou. Habit upright; pods dark colored, seeds varicolored; ripens in 80 days, good bearer. Used extensively for stock feed and somewhat as human food.

60249. Pai Chia K'e'tzu. Habit upright; pods small, white; ripens in 70 to 80 days; oil content high, makes good bean curd. Used extensively for human food and as stock feed. This is considered the best soy bean of this district.

60250. Ping Niu Huang. Habit upright; pods black; ripens in 90 days; oil content high, makes good bean curd. Used extensively for animal and human food.

60251. VIGNA SINENSIS (Torner) Savi. Fabaceæ. Cowpea.

Chiang tou. Habit spreading; pods long, round; ripens in 70 days; can be ground dry into meal for human consumption. Used to make a refreshing hot-weather beverage.

60252. POLYGONUM CAMPANULATUM Hook. f. Polygonaceæ.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received May 21, 1924.

During the late summer and autumn this hardy perennial, native to the Himalayas, produces dense racemes of charming, bell-shaped, fragrant, rosy white flowers. The plant is of compact, bushy habit, with handsome foliage, and is useful for growing in moderately shaded, moist situations.

60253. VIGNA LUTEA (Swartz) A. Gray (V. retusa Walp.). Fabaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received May 21, 1924.

Silani. A native perennial creeper or climbing vine found along the seashore in the Philippines.

I first saw this vine at Mindanao in 1919 and considered it promising as a cover crop, for which purpose it has since proved very satisfactory. It has also made a good green forage for cattle. Although it does not seed freely, cuttings root very readily, and the plant would appear to have possibilities for tropical regions like Porto Rico and Hawaii. (*Wester.*)

60254. SAPIUM JENMANNI Hemsl. Euphorbiaceæ.

From Georgetown, British Guiana. Seeds presented by R. Ward, superintendent, Botanic Gardens. Received May 21, 1924.

A tall forest tree which grows in low, humid situations in British Guiana and is said to be the principal, if not the only, source of rubber from that colony. The product has excellent elasticity and has brought good prices in the English markets. Seeds have been secured for department rubber specialists.

60255. COTULA CINEREA Delile. Asteraceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received May 21, 1924.

A densely hairy, pale-green herbaceous plant about 5 inches high, which, according to Doctor Trabut, makes a very agreeable tealike infusion.

60256. CUCUMIS SATIVUS L. Cucurbitaceæ. Cucumber.

From Perthshire, Scotland. Seeds presented by J. B. Roberts. Received May 21, 1924.

An Indian variety, from Malwa, Central India, 18 to 20 inches long and quite thick. It should be picked when partly ripe; a few should be left to ripen fully for seed purposes. The flavor is very pronounced. (*Roberts.*)

60257. HYOSCYAMUS FALZLEZ Cos. Solanaceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received May 21, 1924.

This is known to the Touarregs as "Afahlehlé." It is common in the southern part of the Sahara, where its toxic properties are well known to the natives. It can be eaten by camels, goats, and sheep, but is very poisonous to horses and donkeys. It is believed that Afahlehlé fattens ruminants and also women, corpulency among the latter being considered a mark of beauty. (*Trabut.*)

60258. CITRULLUS VULGARIS Schrad. Cucurbitaceæ. Watermelon.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received May 21, 1924.

This is said to be a small watermelon with a hard thin rind and flesh of exceptionally fine quality. (*Wester.*)

60259 to 60266. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Seoul, Chosen, Japan. Seeds presented by Dr. Y. Nishimura, chief, Industrial Bureau, Government-General of Chosen. Received June 2, 1924.

Introduced for soy-bean specialists.

60259. *Anpen.* 60263. *Kongo.*

60260. *Chotan.* 60264. *Koshu.*

60261. *Crusan.* 60265. *Oiyarucon.*

60262. *Heijo.* 60266. *Tansen.*

60267 to 60271. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Kwangju, Chosen, Japan. Seeds presented by Miriam de Haas, Southern Presbyterian Mission. Received June 2, 1924.

Introduced for soy-bean specialists.

60267. No. 1. Large, green bean.

60268. No. 2. *Tai-chi* bean.

60269. No. 3. Black bean.

60270. No. 4. White bean.

60271. No. 5. Brown bean.

60272 to 60278. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Shaking, Chekiang, China. Seeds presented by Rev. A. F. Ufford, American Baptist Foreign Mission Society. Received June 2, 1924.

Introduced for soy-bean specialists.

60272. *Fifth Moon.*

60273. *Sixth Moon.*

60274. *Eighth Moon.*

60275. *Ninth Moon.*

60276. *Tenth Moon.*

60277. Black.

60278. Large Green.

60279 to 60282. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Peking, China. Seeds presented by N. S. Huang, chief, Bureau of Agriculture and Forestry. Received June 2, 1924.

Introduced for the use of soy-bean specialists.

60279 to 60281. These are the three best varieties grown in this part of China. (*Huang.*)

60279. From Mukden.

60280. From Peking.

60281. From Shansi.

60282. A mixture of Peking and Shansi varieties.

60283 and 60284. LILIUM spp. Liliaceæ. Lily.

From Tunbridge Wells, England. Seeds purchased from R. Wallace & Co. Received May 21, 1924.

Obtained for horticulturists engaged in breeding new types of lilies.

Hybrids raised by the late Mrs. R. O. Backhouse.

60283. *LILIUM MARTAGON* × *HANSONI*.

60284. *LILIUM SULPHUREUM* × *REGALE*.

Sulphur-Gale.

60285 and 60286.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received May 15, 1924. Notes by Mr. Towns.

60285. *CUCUMIS MELO* L. Cucurbitaceæ. Melon.

A Cuban variety which bears well and has a delicious flavor.

60286. *CUCURBITA FEPO* L. Cucurbitaceæ. Pumpkin.

Small solid pumpkins which are excellent for pie.

60287. PRUNUS sp. Amygdalaceæ.

From Germany. Plants sent at the request of Omar E. Mueller, Clifton Park, Lakewood, Ohio. Received May 19, 1924.

Weichsel. This hardy flowering cherry is exceedingly fragrant, with aromatic bark. (*Mueller*.)

60288. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ.

Soy bean.

From Fukuoka, Japan. Seeds presented by Tyôzaburo Tanaka, Kyushu Imperial University, through Dr. Mitsunaga Fujioka, Division of Forestry, Kyushu Imperial University. Received May 20, 1924.

Shimabara Wasa. From the Kumamoto Agricultural Experiment Station. (*Tanaka*.)

Introduced for cultural and comparison tests.

60289 and 60290.

From Burringbar, New South Wales, Australia. Seeds presented by B. Harrison. Received May 21, 1924. Notes by Mr. Harrison.

60289. CUCUMIS MELO L. Cucurbitaceæ. Melon.

Thorne's Monster muskmelon. A variety of delicious flavor which attains a weight of 24 pounds and a diameter of about 3 feet. Grown on reclaimed swamp land. From L. G. Thorne, Murwillumbah, New South Wales.

60290. ELICHRYSUM sp. Asteraceæ.

A very rare native double white "aster." It is a shrub about 3 feet high; the flowers are borne in large clusters.

60291. RUBUS sp. Rosaceæ.

Raspberry.

From Bolivia. Seeds collected by A. S. Hitchcock, Bureau of Plant Industry. Received May 21, 1924.

An enormous pale-rose raspberry, an inch long, from Yungas, Bolivia. I saw only one or two fruits. (*Hitchcock*.)

60292 and 60293. CINCCHONA spp. Rubiaceæ.

From Tjinjirean, Dutch East Indies. Seeds presented by the director of the Government Cinchona Plantations. Received May 22, 1924. Notes by G. A. Russell, Bureau of Plant Industry.

Introduced for specialists experimenting with drug plants.

60292. CINCCHONA LEDGERIANA Moens.

Yields a bark remarkably rich in quinine which crystallizes readily as quinine sulphate. The percentage of cinchonine and other alkaloids present is relatively small. The bark of this species matures in the fifth or sixth year and does not increase in quinine after that. Suitable for cultivation only on hillsides in frost-free regions.

60293. CINCCHONA SUCCIRUBRA Pavon.

Yields a bark containing a large amount of alkaloids, of which a relatively large percentage is cinchonidine which retards the separation of the quinine as sulphate. The bark of this species matures in the fourth or fifth year and does not increase in quinine thereafter. Suitable for cultivation only on hillsides in frost-free regions.

60294 to 60300.

From Shaoking, Chekiang China. Seeds presented by Rev. A. F. Ufford, American Baptist Foreign Mission Society. Received June 9, 1924. Notes by Mr. Ufford.

Introduced for forage-crop specialists.

60294 to 60299. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

60294. A mixture of *Wu Mao deo* (Black Hairy bean) and *Do Kyng deo* (Big Green bean). The black beans are not used for bean curd, but are used as a tonic food.

60295. Fifth Month White. Planted in April and matures in two months. Grows well in dry places with no fertilizer.

60296. Loh Yuih bah (Sixth Month White). Planted in April; matures in about 80 days.

60297. Eighth Month White. Planted in May; matures in about 90 days.

60298. Ninth Month White. Planted early in June; matures in about 100 days.

60299. Tenth Month White. Planted early in June; matures in 120 days.

60300. VIGNA SESQUIPEDALIS (L.) Fruwirth. Fabaceæ. Yard Long bean.

Planted in April; matures in about 80 days. The culture is the same as that for soy beans. The pods, a foot or more long, are eaten green, like string beans.

60301 to 60306. CROTALARIA spp. Fabaceæ.

From Salisbury, Rhodesia, Africa. Seeds presented by H. G. Mundy, chief agriculturist, Department of Agriculture. Received May 26, 1924. Notes by Mr. Mundy.

These crotalarias appear promising to us as green manure and may be of interest for trial for a similar purpose in the United States.

60301. CROTALARIA INTERMEDIA Kotschy.

Plant 2 to 3 feet high, branching less than 6 inches above ground; leaflets long and narrow. Flowers creamy yellow with purple veins. Matures in four months.

60302. CROTALARIA MAXILLARIS Klotzsch.

Plant 1½ to 2½ feet high; branching along entire main stem; leaflets broad. Flowers bright yellow. Matures in four months.

60303. CROTALARIA SPHAEROCARPA Perr.

Plant 1 to 1½ feet high, of bushy habit. Flowers yellow. Matures in three and one-half months.

60304. CROTALARIA sp.

Plant 3 to 5 feet high, branching on upper part of stem. Flowers small, yellow. Matures in five months.

60305. CROTALARIA sp.

Plant 2 to 2½ feet high. Similar to *Crotalaria intermedia* [S. P. I. No. 60301], but has smaller flowers.

60306. CROTALARIA sp.

Similar to *Crotalaria maxillaris* [S. P. I. No. 60302], but takes two or three weeks longer to mature, and does not seed as freely.

60307 and 60308. MANGIFERA spp. Anacardiaceæ.

From Manila, Philippine Islands. Plants presented by Don D. Strong, acting director, Bureau of Agriculture. Received June 12, 1924.

These two Philippine relatives of the mango bear edible fruits, which are sold in the markets of their native country. Although tropical in their requirements, it is possible that they will do as well in southern Florida as some of the varieties of the mango, and it is for the purpose of testing them in that section of the United States that plants have been obtained. The fruits of both are similar to those of the mango.

60307. MANGIFERA ODORATA Griffith.

According to P. J. Wester, in "Food Plants of the Philippines," the *Huani* is a handsome tree very similar to the mango in habit, foliage, and flowers. The fruits, about the size of a carabao mango, but more rounded, are green, thick skinned, sweet, and juicy, very aromatic, with yellow flesh containing numerous coarse fibers. Its occurrence as a wild plant is confined to low altitudes in the Philippines where the rainfall is equally distributed throughout the year. It is recommended for trial in regions where the mango does not thrive because of excessive moisture.

60308. MANGIFERA VERTICILLATA C. B. Robinson. Anacardiaceæ. Bauno.

Like the preceding [S. P. I. No. 60307] the bauno resembles the mango, although it is more upright in habit, with sparser foliage. The smooth, leathery, narrow leaves are 5 to 7 inches long, and the small, blue flowers are produced in terminal panicles like those of the mango. According to P. J. Wester (Food Plants of the Philippines), there is considerable variation in the size and quality of the Philippine fruit on different trees; the best being somewhat larger than the Carabao mango, about 5 inches long and 3 inches in diameter, yellowish green, with very thin skin, and very juicy white flesh, which is subacid, aromatic, and of excellent flavor, resembling that of the apricot and soursop combined. The best strains of the bauno are found in Zamboanga.

60309 to 60313.

From Edinburgh, Scotland. Seeds presented by W. Wright Smith, regius keeper, Royal Botanic Gardens. Received May 22, 1924.

60309. ECHEVERIA NODULOSA Otto (Cotyledon nodulosa Baker). Crassulaceæ.

According to Saunders (Refugium Botanicum, vol. 1) this Mexican plant, about 8 inches high, is excellent for greenhouse culture. It produces an abundance of small, straw-colored flowers tinged with red. The fleshy, oval, sharp-pointed leaves, dull green tinged with red, are in a rosette at the apex of the stem.

60310. LOPEZIA RACEMOSA Cav. Onagraceæ.

A graceful annual, native to Mexico, described by Cavanilles (Icones Plantarum, vol. 1) as a plant 3 to 4 feet high, with narrowly oval, toothed leaves and terminal racemes of crimson flowers.

60311 and 60312. PASSIFLORA SUBEROSA L. Passifloraceæ.

Several of the small-fruited passifloras are valued as ornamental plants, and this woody climber from the West Indies is one of the little-known species which properly comes under that class. The flowers are greenish yellow, and the fruit is a small, ovoid berry. Coming from the Tropics, this vine will probably endure little or no frost.

For previous introduction, see S. P. I. No. 46629.

60309 to 60313—Continued.

60313. SCHIZOCENTRON ELEGANS (Schlecht.) Meisner. Melastomaceæ.

A very charming little creeper native to eastern Mexico, which roots at the joints and forms a dense carpet. The leaves are small, opposite, and short stemmed, and the comparatively large, purplish flowers appear at the ends of short branches. The plant deserves to be more widely cultivated and would probably grow in the open in the southern part of the United States. (J. N. Rose, United States National Museum.)

For previous introduction, see S. P. I. No. 58366.

60314 and 60315. HIBISCUS spp. Malvaceæ.

From Dacca, Eastern Bengal, India. Seeds presented by R. S. Finlow, Department of Agriculture. Received June 23, 1924.

Introduced for testing as a possible source of fiber.

60314. HIBISCUS CANNABINUS L. Ambari hemp.

Ambari is an annual plant with slender herbaceous stems, 1 to 3 meters tall, usually dark purple, the earlier lower leaves nearly round, and the later upper ones deeply lobed. The flowers are large, 4 to 7 cm. across, creamy white, with purple at the base of the petals.

It is cultivated for fiber in southern India, and its fiber, shipped from the port of Bimlipitam, is known in the London markets as "Bimlipitam jute" and is quoted at prices 20 to 30 per cent less than quotations for Indian jute. In Senegal and other parts of French West Africa the plant and its fiber are called "da." In Angola it is called "gambo" or "gombo" and in Brazil it was given the fanciful name "Canhamo Braziliensis Perini."

The fiber is cleaned by hand after retting the stalks in water. It belongs to the jute group and is suitable for making bags, burlaps, and twines.

Ambari will grow in this country from the Potomac and Ohio valleys southward, but the fiber could not be produced profitably without efficient fiber-cleaning machines. It is a hardy plant, resistant to drought and attractive in appearance, and is worthy of cultivation as an ornamental. (L. H. Dewey, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 55481.

60315. HIBISCUS SABDARIFFA L. Roselle.

Variety *alba*. A form with calyces which are smaller than those of the typical roselle and whitish or pale yellow in color. The plant is of upright habit and not as vigorous as the typical form.

For previous introduction, see S. P. I. No. 51268.

60316 and 60317. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Hakozaki, Fukuoka, Japan. Seeds presented by Dr. Tyozauro Tanaka, Kyushu Imperial University. Received June 24, 1924. Notes by Doctor Tanaka.

Introduced for specialists interested in soy beans.

60316. A, *Meguro Daizu* (black-eye soy bean; black-eye may be a local name). From Tara village, Fujitsu County.

60317. B, From Nanaura village, Fujitsu County.

60318. TRITICUM TURGIDUM L. Poaceæ. Poulard wheat.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

No. 49. Calca, Peru. *Yana barba* (black bearded). Obtained from T. E. Payne; grown locally for a long time. (Richey and Emerson.)

60319. AMPELODESMA BICOLOR (Poir.) Kunth. Poaceæ. Grass.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received June 27, 1924.

A cespitose grass, with long tough leaves, which appears to do well in Algeria on poor soil. It will be tested as a forage grass, and it may also be of possible use for paper making.

60320 to 60322. CUCUMIS MELO L. Cucurbitaceæ. Melon.

From Teheran, Persia. Seeds presented by Joseph S. Kornfeld, American Minister. Received June 9, 1924.

Sent in response to a request for the best varieties of melons cultivated in Persia, for the use of horticulturists engaged in melon-breeding experiments.

60320. *Gorgabe d'Ispahan*.

60321. *Kharabose Samsour id'Ispahan*.

60322. *Kharabose Sine d'Ispahan*.

60323. TRACHYLOBIMUM VERRUCOSUM (Gaertn.) Oliver. Cæsalpiniaceæ.

From Soledad, Cienfuegos, Cuba. Seeds presented by Robert M. Grey, superintendent, Cuban Gardens. Received June 11, 1924.

Although this leguminous tree, native to Madagascar, produces a resin used to some extent in the manufacture of varnish, its chief value will probably be as an ornamental. It attains a height of 20 feet, is spineless, and bears dense clusters of white flowers. According to Mr. Grey, who sends seeds from Cuba, the "Copal tree," as he calls it, does well in that country on shallow, clay uplands, either partially shaded or fully exposed to the sun.

60324. MORUS KAGAYAMAE Koidz. Moraceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received June 12, 1924.

A handsome Japanese mulberry which thrives in Algeria. The leaves are eaten readily by silkworms.

60325 to 60334. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Nishigahara, Tokyo, Japan. Seeds presented by H. Ando, director, Imperial Agricultural Experiment Station. Received June 12, 1924. Notes by Mr. Ando.

Introduced for agronomists experimenting with soy beans.

60325. *Akasaya*. Medium growing season. From the Ibaraki Prefectural Agricultural Experiment Station.

60326. *Bakamame*. Medium growing season. From the Saitama Prefectural Agricultural Experiment Station.

60327. *Kimusume*. Medium growing season. From the Ibaraki Prefectural Agricultural Experiment Station.

60328. *Okuechigo*. Long growing season. From the Gumma Prefectural Agricultural Experiment Station.

60329. *Onihadaka*. Long growing season. From the Gumma Prefectural Agricultural Experiment Station.

60330. *Sennari-Kimusume*. Short growing season. From the Saitama Prefectural Agricultural Experiment Station.

60331. *Shakkinnashi*. Long growing season. From the Gumma Prefectural Agricultural Experiment Station.

60325 to 60334—Continued.

60332. *Shirobana*. Short growing season. From the Saitama Prefectural Agricultural Experiment Station.

60333. *Shizika*. Medium growing season. From the Ibaraki Prefectural Agricultural Experiment Station.

60334. *Suzumame*. Short growing season. From the Saitama Prefectural Agricultural Experiment Station.

60335 to 60352.

From Omsk, Siberia, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received May 25, 1924.

60335. *ASTRAGALUS PHYODES* L. Fabaceæ.

A nearly stemless species from the desert regions of southwestern Russia.

60336. *ASTRAGALUS VIMINEUS* Pall. Fabaceæ.

An erect, shrubby species from southern Russia and the Caucasus.

60337 to 60339. *CHAETOCHELOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceæ. **Millet.**

From the Province of Akmolinsk.

60337. *Mogar*.

60338. *Mogar* (black).

60339. *Mogar* (white).

60340. *CITRULLUS VULGARIS* Schrad. Cucurbitaceæ. **Watermelon.**

From the Province of Kustanai.

60341. *HALIMODENDRON HALODENDRON* (Pall.) Voss. Fabaceæ. **Salt tree.**

From the Province of Omsk. The *chinguil* is an ornamental shrub characteristic of the Kirgiz steppes and Turkestan deserts. It is very drought resistant and not particular as to soil. (*Murashinsky*.)

For previous introduction, see S. P. I. No. 42283.

60342. *HEDYSARUM POLYMORPHUM* Ledeb. Fabaceæ.

A Siberian species with an ascending stem

60343. *IRIS HALOPHILA* Pall. Iridaceæ. **Iris.**

From the Province of Kustanai. A low-growing Siberian iris, 1 or 2 feet high, with pale-green leaves and spicate clusters of yellow flowers.

60344. *LIMONIUM GMELINI* (Willd.) Kuntze (*Statice gmelini* Willd.). Plumbaginaceæ.

From the Province of Akmolinsk. A hardy, pink-flowered shrub which grows in salt marshes; it is sometimes used for tanning.

60345. *OXYTROPIS FLORIBUNDA* (Pall.) DC. Fabaceæ.

A low herbaceous perennial with purplish red flowers, which grows in sandy places in Siberia.

60346. *SOPHORA ALOPECUROIDES* L. Fabaceæ.

A semihardy, grayish pubescent undershrub with upright branches and dense, terminal racemes of yellow flowers. Native to western Asia.

60347 to 60350. *STIPA* spp. Poaceæ. **Grass.**

60347. *STIPA CAPILLATA* L.

A cespitose grass, with erect rigid stems, from rocky places in Europe and western Asia.

60348 to 60350. Native Siberian species, valuable as fodder grasses, introduced for testing in this country.

60335 to 60352—Continued.

60348. *STIPA PENNATA* L.60349. *STIPA PENNATA* LESSINGIANA (Tr. and Rupr.) Richter.
No. 1.60350. *STIPA PENNATA* LESSINGIANA (Tr. and Rupr.) Richter.
No. 2.60351. *TRIFOLIUM FRAGIFERUM* L. Fabaceæ.

From the shores of the Tobol River, Province of Kustanai.

Strawberry clover has proved, in Australia, to be suitable as a pasture plant for wet, marshy ground.

For previous introduction, see S. P. I. No. 58854.

60352. *ZEA MAYS* L. Poaceæ. Corn.

From the Province of Akmolinsk, District of Atbasar.

60353. *ASCLEPIAS STELLIFERA* Schlechter. Asclepiadaceæ.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received May 24, 1924.

A low, narrow-leaved, purple-flowered milkweed introduced from South Africa for the use of specialists seeking new sources of rubber.

60354. *PASSIFLORA* sp. Passifloraceæ.

From Para, Brazil. Seeds presented by Godfrey Davidson. Received June 13, 1924.

This is a very choice hybrid *granadilla* and is the best of two hundred varieties which I am growing here. I believe the seeds will come nearly true to type. The fruit is large, yellow, and sweet, and the plant bears throughout the year. (Davidson.)

60355 and 60356.

From Gatun, Canal Zone. Seeds presented by Joseph A. Close. Received June 11, 1924.

60355. *CARICA PAPAYA* L. Papayaceæ. Papaya.

A large papaya of very good flavor. (Close.)

60356. *PASSIFLORA VITIFOLIA* H. B. K. Passifloraceæ.A tropical climber, native to Panama, where it is known as *sandia del monte*, or wild watermelon. The plant is a vigorous grower, with handsome red flowers which give it ornamental value. The fruit, though edible, is not of good quality. For trial in southern Florida and tropical regions.

60357 to 60359.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received June 12, 1924.

60357. *EUONYMUS FIMBRIATUS* Wall. Celastraceæ.The chief value of the various species of *Euonymus* lies in the beauty of the fruits and the autumnal coloring of the foliage. This particular species, native to the more temperate portions of the Himalayas at altitudes of 8,000 to 12,000 feet, is apparently unknown horticulturally. It is a shrub or small tree, with deeply cut, dark-green leaves, small white flowers, and fruits about the size of cherries.60358. *HELLEBORUS FOETIDUS* L. Ranunculaceæ.

A hardy herbaceous perennial from western Europe which is valued chiefly for the ornamental character of its handsome leathery foliage. The inconspicuous flowers are greenish or bordered with purple.

For previous introduction, see S. P. I. No. 53146.

60357 to 60359—Continued.

60359. *RUSCUS HYPOGLOSSUM* L. Convallariaceæ.

A handsome evergreen shrub 1 to 2 feet high, which is very attractive in the fruiting condition, when the large orange-scarlet berries contrast pleasingly with the long dark-green leaves. It is native in southern Europe, and thrives best in shady, moist situations.

60360 and 60361.

From Kirstenbosch, Newlands, Cape Province, South Africa. Seeds presented by the director of the National Botanic Gardens. Received June 9, 1924.

60360. *CALLITRIS CUPRESSOIDES* (L.) Kuntze. Pinaceæ.

An evergreen South African shrub about 10 feet high, with opposite linear leaves closely pressed against the branchlets like scales. It is probably best suited for growing in the Gulf States and California.

60361. *GLADIOLUS CALLISTUS* Bolus f. Iridaceæ.As an ornamental for the Southern States and for breeding purposes this South African gladiolus may be of value. It is described in the July, 1917, number of the *Annals of the Bolus Herbarium* as a tall plant, 30 to 40 inches high, with four to seven narrow, sword-shaped basal leaves 1 to 2 feet long and two stem leaves. The flowers, white suffused with pink and 9 to 12 in number, are produced on 1 to 3 branches.60362. *BERBERIS KOEHNEANA* C. Schneider. Berberidaceæ. Barberry.

From Dehra Dun, India. Seeds presented by the botanist, Department of Agriculture. Received May 21, 1924.

A shrubby barberry from northern India, which is described by C. K. Schneider (*Bulletin l'Herbier Boissier*, ser. 2, vol. 5, p. 814) as having purplish branches, brownish spines in clusters of one to three, and oblong-acute leaves, light green above and ashy beneath.

60363 to 60366.

From Ventimiglia, Italy. Seeds presented by S. W. McLeod Braggins, superintendent, La Mortola Botanic Garden. Received June 16, 1924.

These three grasses and the unnamed tomato variety have been obtained for specialists who are testing all available strains of these crop plants in the effort to discover superior types for growing in the United States.

60363. *BRACHYPODIUM DISTACHYUM* (L.) Roem. and Schult. Poaceæ. Grass.

A very stiff, densely branched annual grass 4 to 12 inches high, upright or ascending in habit, found in cultivated fields and along roadsides, often in chalky soil, in the Mediterranean countries.

60364. *BRACHYPODIUM RAMOSUM* (L.) Roem. and Schult. Poaceæ. Grass.

A blue-green, perennial, creeping grass, much branched at the base, found in the warmer portions of the Mediterranean countries, especially on chalky soil and in dry, rocky places.

60365. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ. Tomato.

An unnamed variety.

60366. *PHALARIS NODOSA* L. Poaceæ. Grass.

A perennial grass with ascending stems, found in sunny, grassy places along roadsides and on the edges of fields in the Mediterranean countries. It is often propagated by means of the swollen rootstocks which are situated just below the surface of the ground.

60367. GUILIELMA SPECIOSA Mart.
Pheniceaceæ. Pupunha.

From Para, Brazil. Seeds presented by P. H. Anet, Caixa 270. Received June 16, 1924.

The pupunha is an Amazonian palm, becoming ultimately about 60 feet high, and is closely allied to the pejibaye (*Guiljelma utilis*). Like the latter, it furnishes food for great numbers of people in regions where it is indigenous, and appears to be of promise for cultivation as a food plant throughout the Tropics in congenial situations.

60368. CUCUMIS METULIFERUS E. Mey.
Cucurbitaceæ.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received June 23, 1924.

This South African "wild cucumber" is native to the Kalahari Desert and the Belgian Congo, where, according to Pole Evans, the fruit is considered excellent for eating. The plant is an annual creeper, much branched, and covered with bristly hairs. The dark-green leaves are similar to those of the ordinary cucumber, and the flowers are yellow. The gourdlike fruit, oblong in shape, varies from greenish yellow to red in color when ripe, is about 5 inches long, and is covered with short, hard spines. It is eaten in the same way as the ordinary cucumber, according to the Journal of the South African Department of Agriculture for August, 1923.

60369 to 60377.

From French Somaliland. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 16, 1924. Notes by Doctor Shantz.

60369. ACACIA sp. Mimosaceæ.

No. 48. Aicha, French Somaliland. February 8, 1924. An acacialike tree with seeds edible just before they are ripe.

60370. CAPPARIS sp. Capparidaceæ.

No. 55. En route from Jibuti to Addis Ababa, Abyssinia. January 31, 1924. A prominent plant in Lower Abyssinia. The fruits are eaten by birds.

60371. CICER ARETINUM L. Fabaceæ.
Chick-pea.

No. 22. Doukham, Abyssinia. February 1, 1924. Grown as the most common legume in Abyssinia. This black form is quite abundant.

60372. CROTALARIA sp. Fabaceæ.

No. 14. Afdem, Abyssinia. January 30, 1924. A small spreading plant.

60373 and 60374. ERAGROSTIS ABYSSINICA (Jacq.)
Schrad. Poaceæ. Tef.

60373. No. 65. Addis Ababa, Abyssinia. February 4, 1924. A white tef grown here on black cotton soil. After heavy rains when the soil is thoroughly trampled by animals until a soft mud, tef is sown over the mud and yields a good crop.

60374. No. 68. Addis Ababa, Abyssinia. February 4, 1924. Brown tef.

60375. GOSSYPIUM sp. Malvaceæ.
Kidney cotton.

No. 8. Errar, French Somaliland. January 29, 1924. Grown by the natives.

60376. GOSSYPIUM sp. Malvaceæ.
Kidney cotton.

No. 9.

60377. GOSSYPIUM sp. Malvaceæ.
Cotton.

No. 60.

60378. BERBERIS ARISTATA DC. Ber-
beridaceæ. Barberry.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

A handsome shrub of elegant, spreading habit, becoming at times as much as 10 feet high. The spine-tipped leaves are often whitish beneath, and the numerous flowers are bright golden yellow. The spindle-shaped berries, about half an inch in length, are red, covered with a blue-white bloom. This is said to be one of the most vigorous of the Himalayan barberries; it has proved hardy at the Arnold Arboretum, Jamaica Plain, Mass.

For previous introduction, see S. P. I. No. 53628.

60379 to 60387.

From French Somaliland. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 16, 1924. Notes by Doctor Shantz.

60379. HOLCUS SORGHUM L. (Sorghum vulgare Pers.). Poaceæ. Sorghum.

No. 67. Type of sorghum sold in the market.

60380. INDIGOFERA sp. Fabaceæ.

No. 5. Above Jibuti. January 29, 1924. A small perennial legume 2 to 5 feet high with a pleasant odor. Abundant in French Somaliland.

60381. LENTILLA LENS (L.) W. F. Wight (Lens esculenta Moench). Fabaceæ. Lentil.

No. 63. Addis Ababa, Abyssinia. February 4, 1924.

60382. PENNISETUM sp. Poaceæ. Grass.

No. 54a. Addis Ababa, Abyssinia. February 5, 1924. Mixed.

60383. THEMEDA sp. Poaceæ. Grass.

No. 54b. Addis Ababa, Abyssinia. February 5, 1924. Mixed.

60384. ROSA sp. Rosaceæ. Rose.

No. 26. Addis Ababa, Abyssinia. February 4, 1924. A very attractive single white rose which grows wild on the highlands. It is much used as a hedge.

60385. RUBUS sp. Rosaceæ.

No. 33. Addis Ababa, Abyssinia. February 4, 1924. A very large, ornamental bush having reddish purple flowers and large orange or darker berries similar to blackberries, prized as a fruit in Abyssinia. May prove to be of value for breeding experiments.

60386. TRITICUM DURUM L. Poaceæ.
Durum wheat.

No. 57. Addis Ababa, Abyssinia. February 4, 1924. Wheat having a dark pericarp. Quite common in the market; may be very valuable for breeding experiments.

60387. TRITICUM DURUM L. Poaceæ.
Durum wheat.

No. 58. Addis Ababa, Abyssinia. February 4, 1924. Lighter in color than Nos. 56 and 57 [S. P. I. Nos. 59284 and 60386]. Found to be common in the market.

60388 to 60394.

From Uganda, British East Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 20, 1924. Notes by Doctor Shantz.

60388. ACACIA sp. Mimosaceæ.

No. 124. Karmosa, Kenya. March 8, 1924. An attractive flat-topped tree whose occurrence characterizes the best type of soil.

60388 to 60394—Continued.

60389. *ALBIZZIA* sp. Mimosaceæ.

No. 127. Karmosa, Kenya. March 8, 1924. A large, handsome flat-topped tree, with bright-green foliage, which is especially ornamental when covered with its mantle of flowers.

60390. *ARISTOLOCHIA* sp. Aristolochiaceæ.

No. 144. Kampala, Uganda. March 16, 1924. A very attractive ornamental vine with large mottled flowers.

60391. *FICUS* sp. Moraceæ.

No. 143. Kampala, Uganda. March 16, 1924. An ornamental tree grown extensively in East Africa. It is considered one of the best shade trees in Kampala. Probably this is the same as that used for making bark cloth.

60392. *VOANDZEIA SUBTERRANEA* (L.) Thouars. Fabaceæ.

No. 129. Karmosa, Kenya. March 8, 1924. This nut is hard when ripe and can not be used as is our peanut. The plant should be pulled while the beans are still soft, boiled, and then shelled. In this form it would make a very desirable side vegetable.

60393. (Undetermined.)

No. 125. Karmosa, Kenya. March 8, 1924. A large tree with a straight white trunk and good ivory-colored wood. The edible fruit is very popular in the market.

60394. (Undetermined.)

No. 126. Karmosa, Kenya. March 8, 1924. Fruit like that of *Landolphia*, but appears to come from a tree; it is full of latex; about 2 inches in diameter, with seeds inclosed in yellow pulp. May be of value for rubber.

60395 to 60405.

From Uganda, British East Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 26, 1924. Notes by Doctor Shantz.

60395. *BAUHINIA* sp. Cæsalpiniaceæ.

No. 149. Iganga, Uganda. March 19, 1924. A small ornamental tree with handsome foliage and attractive pink flowers. Grown extensively in East Africa as an ornamental.

60396. *CERBERA THEVETIA* L. (*Thevetia nereifolia* Juss.). Apocynaceæ.

No. 152. Iganga, Uganda. March 19, 1924. An excellent ornamental, willow-leaved, yellow-flowered tree.

60397. *COLOCASIA* sp. Araceæ.

No. 181. Nairobi, Kenya. March 23, 1924.

60398. *JATROPHA MULTIFIDA* L. Euphorbiaceæ.

No. 150. Kimule, Uganda. March 19, 1924. Leaves finely cut, like those of *Manihot*; flower heads red. Widely grown as an ornamental.

60399. *GOSYPIUM* sp. Malvaceæ. Cotton.

No. 176.

60400. *HIBISCUS* sp. Malvaceæ.

No. 183. Tororo, Uganda. March 23, 1924. A small species which may be useful as an ornamental.

60401. *MELOTHRIA* sp. Cucurbitaceæ.

No. 178. Tororo, Uganda. March 23, 1924. Fruits small, red, eaten by birds. Plant would make a good ornamental.

60402. *PHASEOLUS LUNATUS* L. Fabaceæ. Lima bean.

No. 151. Kampala, Uganda. March 18, 1924. A large, climbing form, growing over many of the fences in Kampala.

60395 to 60405—Continued.

60403. *TELFARIA PEDATA* (J. E. Smith) Hook. Cucurbitaceæ.

No. 179. This cucurbit is sold in the Nairobi market. One seed house now has orders for 25,000 pounds.

60404. (Undetermined.)

No. 146. Iganga, Uganda. March 19, 1924. The best timber tree of the Bargand country; trunk straight, wood walnutlike but hard and resistant to termites. Used universally for cabinetwork.

60405. (Undetermined.)

No. 184. Nairobi, Kenya. March 27, 1924. An attractive ornamental vine with capsules like that of the morning-glory, but with tubular flowers varying from yellow to red.

60406 to 60410. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Yenping, Fukien, China. Seeds presented by L. C. Lin. Received June 25, 1924. Notes by Mr. Lin.

Introduced for agronomists experimenting with soy beans.

60406. *Cung Yien*. Used for making bean curd.60407. *Heh Yien*. Used for making bean curd and soy-bean cheese.60408. *Kuan Huang*. May be a mixture of *Mammoth Yellow*, A. K., and *Haberlandt*. Good for making bean curd.60409. *Sao Heh*. Good for making soy-bean sauce.60410. *Tai Yien*. Good for making bean curd.

60411 and 60412. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Ichang, China. Seeds purchased from Rev. A. S. Cooper, American Church Mission. Received June 25, 1924. Notes by Mr. Cooper.

These are the two varieties grown in this locality. They are used for making bean curd, a staple article of diet in this region.

60411. Common variety.

60412. The black variety.

60413 to 60416. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Foochow, China. Seeds presented by Dr. Franklin P. Metcalf, Fukien Christian University. Received June 25, 1924. Notes by Doctor Metcalf.

Introduced for agronomists experimenting with the soy bean.

60413. No. 1. *Uong dau* (yellow bean). Obtained in Foochow, but reported to come from Manchuria. Used for bean curd and used in Hankow as well as here for the oil. This variety is also raised here for oil, for which purpose it ranks second among these four varieties.

60414. No. 2. *Chang dau* (green bean). Not grown in Foochow, but used for oil and bean curd.

60415. No. 3. *Uong dau* (yellow bean). Grown principally in the vicinity of Kutien, not around Foochow. Used for bean curd and for oil; considered the best of all the soy beans around here for oil.

60416. No. 4. *Ou dau* (black bean). Like the preceding, this is grown only in the vicinity of Kutien. Used mostly for human food; makes excellent bean curd.

60417. AGROSTIS CAPILLARIS L. Poaceæ.

From Wellington, New Zealand. Seeds presented by E. Bruce Levy, Department of Agriculture. Received June 28, 1924.

Rhode Island bentgrass, introduced for cultural and comparison tests.

60418 to 60420.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

60418. BERBERIS SINENSIS Desf. Berberidaceæ. Barberry.

A slender-branched shrub 4 to 6 feet high, with ovoid, purplish berries. Native to the Caucasus. (*Alfred Rehder, Arnold Arboretum, Jamaica Plain, Mass.*)

For previous introduction, see S. P. I. No. 58118.

60419. BERBERIS WILSONÆ Hemsl. Berberidaceæ. Barberry.

A handsome, sometimes partially evergreen shrub, 2 to 4 feet high, with abundant, roundish, coral-red berries, somewhat translucent. The leaves assume brilliant tints in autumn.

For previous introduction, see S. P. I. No. 53647.

60420. CLEMATIS MONTANA RUBENS Wilson. Ranunculaceæ.

A vigorous, hardy climber, native to the Himalayas; it often reaches a height of 15 to 20 feet; the foliage is reddish, particularly when the young leaflets are unfolding, and the sweet-scented, pink flowers, about 2 inches across, are produced several in each axil, opening in succession one at a time.

For previous introduction, see S. P. I. No. 52934.

60421 to 60424. MUSA TEXTILIS Née. Musaceæ. Abaca.

From the south end of the island of Luzon, Philippine Islands. Plants presented by James Zetek, Ancon, Canal Zone. Received June 25, 1924.

A collection of abaca varieties introduced for testing by fiber specialists.

60421. *Camalig.* 60423. *Pula.*

60422. *Itom.* 60424. *Puti.*

60425. COTONEASTER FRIGIDA Wall. Malaceæ.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

Var. *vicarii*. This is an improved form with deep-green leaves, grayish beneath, and large clusters of rich-red berries which are larger and brighter than those of the typical form.

For previous introduction, see S. P. I. No. 58609.

60426 and 60427. VITEX spp. Verbenaceæ.

From Mount Silinda, Southern Rhodesia. Seeds presented by Dr. W. L. Thompson, American Board Mission. Received June 30, 1924.

The fruits of both of these species are eaten with relish by the natives; we also enjoy them occasionally. (*Thompson.*)

60426. VITEX CIENKOWSKII Kotschy and Peyr.

According to Thiselton-Dyer (*Flora of Tropical Africa*) this species becomes a tree 50 feet high, with leathery leaflets, dense axillary clusters of yellowish brown flowers, and edible fruits the size of cherries.

60426 and 60427—Continued.**60427. VITEX EYLESII S. Moore.**

A large South African shrub with dense cymes of small heliotrope flowers.

60428 to 60437. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Fukuoka, Japan. Seeds presented by Tyôzaburô Tanaka, Kyushu Imperial University, through Dr. Mitsunaga Fujioaka, Division of Forestry, Kyushu Imperial University. Received June 17, 1924.

Introduced for testing by soy-bean specialists's.

From the Oita Prefectural Agricultural Experiment Station. (*Tanaka.*)

60428. *Bungo No. 1.* 60431. *Bungo No. 5.*

60429. *Bungo No. 2.* 60432. *Bungo No. 6.*

60430. *Bungo No. 3.*

From the Miyazaki Prefectural Agricultural Experiment Station. (*Tanaka.*)

60433. *Ameiro.* 60436. *Kindaizu.*

60434. *Aochi.* 60437. *Sanryûiri.*

60435. *Ishiware Daizu.*

60438 to 60440.

From Kingston, Jamaica, British West Indies. Plants presented by F. E. Betheuser. Received June 9, 1924.

60438. DILLENNIA BURBIDGEI (Hook. f.) Gilg. Dilleniaceæ.

A handsome yellow-flowered shrub from northern Borneo which may prove sufficiently hardy for growing in southern Florida. The deep-green leaves are 8 to 10 inches long, and the pale golden-yellow flowers are about 3 inches in diameter. (Adapted from *Curtis's Botanical Magazine*, pl. 6531.)

60439. NAPOLEONA IMPERIALIS Beauv. Lecythidaceæ.

An interesting ornamental tree from West Africa with oblong leaves sometimes a foot and a half long, and solitary, saucer-shaped, axillary flowers which are dominantly reddish and bluish and about 2 inches across. Probably tropical in its requirements.

60440. THUNBERGIA MYSORENSIS (Wight) T. Anders. Acanthaceæ.

There are already a number of Thunbergias which have earned popularity as ornamentals in southern Florida, and this species, which is native to southern India, will be of great interest for that section if it proves hardy. It is a climber with long slender stems, opposite, very narrow leaves, and irregular racemes of handsome flowers, yellow with deep-red borders.

60441 and 60442. CRYPTOSTEGIA spp. Asclepiadaceæ.

From Kew, England. Cuttings presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received June 25, 1924.

Introduced for testing by rubber specialists.

60441. CRYPTOSTEGIA GRANDIFLORA R. Br. Palay rubber.

An erect, woody climber, of unknown nativity, but now cultivated in many places in the Tropics of both hemispheres as an ornamental, and occasionally growing as an escape from cultivation. The flowers, reddish purple becoming pale pink, are about 2 inches across and are produced in short spreading cymes. In India the plant is called palay and is cultivated for the rubber obtained from the juice.

60441 and 60442—Continued.

For previous introduction, see S. P. I. No. 58851.

60442. *CRYPTOSTEGIA MADAGASCARIENSIS* Bojer.

A climbing shrubby vine, native to Madagascar, which is grown as an ornamental in South America and elsewhere. The leaves are short and leathery, and the whitish or pink flowers are 2 to 3 inches wide.

60443 to 60447. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceae.

Sweet potato.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received June 26, 1924.

From the eight American varieties sent us in 1922 only one, the Pumpkin "yam," has seeded at all. I am sending you some of this variety. (Thompson.)

60443. Pumpkin "yam" No. 1.

60444. Pumpkin "yam" No. 6.

60445. Pumpkin "yam" No. 12.

60446. Pumpkin "yam."

60447. Pumpkin "yam" (mixed).

60448. *MEIBOMIA JAPONICA* (Miquel) Kuntze (*Desmodium podocarpum* DC.). Fabaceae.

From Leningrad, Russia. Seeds presented by Wl. Kousnetzoff, in charge of forage plants of the Bureau of Applied Botany. Received June 12, 1924.

Introduced for testing by forage-plant specialists.

An herbaceous species 2 to 3 feet high, with membranous leaflets, native to temperate and tropical regions of the Himalayas of northeastern India at altitudes ranging from 2,000 to 7,000 feet.

60449 to 60460.

From East Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 7, 1924. Notes by Doctor Shantz.

60449. *ALOE* sp. Liliaceae.

No. 99. Voi Wusi. February 20, 1924. A very handsome ornamental plant.

60450. *BAUHINIA* sp. Cæsalpiniaceae.

No. 81. Wusi, Kenya. February 28, 1924. A small, ornamental shrub with large, orchidlike flowers, valuable as an ornamental.

60451. *CARICA PAPAYA* L. Papayaceae. Papaya.

No. 10. Afdem, Lower Abyssinia. January 30, 1924. Grows here at a high altitude and in a very dry country.

60452. *CITRUS MEDICA* L. Rutaceae. Citron.

No. 11. Afdem, Lower Abyssinia. January 30, 1924. A very coarse, large lemonlike variety, 8 to 10 inches long, of very good flavor, eaten fresh by the Ethiopians. Seeds numerous. Known as "Treng" to the Arabs.

60453. *CROTON MEGALOCARPUS* Hutchinson (*C. ellipticus* Pax and Engl., not Baill.). Euphorbiaceae.

No. 95. Nairobi. February 23, 1924. A timber tree the seeds of which are used medicinally.

60454. *ERAGROSTIS SUPERBA* Peyr. Poaceae.

Grass.

No. 87. Wusi. February 20, 1924. An excellent native pasture grass, about 3 feet tall, with broad compressed spikelets.

60449 to 60460—Continued.

60455. *SOLANUM* sp. Solanaceae.

No. 94. Nairobi, Kenya. February 23, 1924. An ornamental producing snow-white berries about three-fourths of an inch in diameter.

60456. *SPOROBOLUS* sp. Poaceae. Grass.

No. 80. Wusi. February 20, 1924.

60457. *TRICHOLAENA ROSEA* Nees. Poaceae. Natal grass.

No. 84. Wusi. February 20, 1924.

60458. *ZIZIPHUS MAURITIANA* Lam. Rhamnaceae.

No. 92. French Somaliland. February 10, 1924. A small fruit of good flavor sold in the market at Djibuti.

60459. (Undetermined.)

No. 93. Djibuti, French Somaliland. February 10, 1924. A rather large, ornamental tree with edible pods. The pulp around the seed is white, starchy, and of very good flavor. The seeds are not eaten.

60460. (Undetermined.)

No. 100. Voi Wusi, Kenya. February 20, 1924. A large bulb with many flowers on one stem, which grows in semidesert brushland. The bulbs are eaten by animals.

60461 to 60636.

From Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received June 3, 1924. Notes by Doctor Harlan.

60461. *ABUTILON* sp. Malvaceae.

No. 535. January 10, 1924. Seeds of a flowering plant not previously seen, collected a 3-days' journey west of Lalibela at an altitude of 9,600 feet.

60462. *ALOE* sp. Liliaceae.

No. 512. Lalibela. January 7, 1924. Collected at an altitude of 8,800 feet.

60463. *AVENA ABYSSINICA* Hochst. Poaceae. Oats.

No. 399a. December 8, 1924. From a threshing field on the road to Ankober at an altitude of 9,600 feet.

60464. *BRACHIARIA OBTUSIFLORA* (Hochst.) Stapf. Poaceae. Grass.

No. 577. February 1, 1924. A belated specimen in black cotton soil near Koqui.

60465. *BROMUS* sp. Poaceae. Grass.

No. 530. January 12, 1924. Collected a 3-days' journey east of Debra Tabor, on the mountain side at an altitude of 9,700 feet.

60466 and 60467. *CARUM COPTICUM* (L.) Benth. and Hook. Apiaceae.

60466. No. 450. December 15, 1923. Purchased in the market at Makfud.

60467. No. 519. January 7, 1924. *Nach Azmoj*. A flavoring spice obtained in the Lalibela market.

60468. *CASSIA OCCIDENTALIS* L. Cæsalpiniaceae.

No. 483. December 27, 1923. Collected a 2-days' journey north of Dessie, Mille Valley, at an altitude of 6,000 feet.

60469. *CASSIA TORA* L. Cæsalpiniaceae.

No. 566. January 26, 1924. Collected a day's journey east of Wähini.

60470 and 60471. *CICER ARIETINUM* L. Fabaceae. Chick-pea.

60470. No. 423. December 11, 1923. Purchased in Allu Amba, Ankober.

60461 to 60636—Continued.

60471. No. 520. January 7, 1924. Lalibela market.
60472. *CROTALARIA* sp. Fabaceæ.
- No. 446. December 2, 1923. Collected on the roadside 10 miles west of Addis Ababa at an altitude of 8,000 feet.
- 60473 to 60476. *CYMOPOGON* spp. Poaceæ.
Grass.
60473. *CYMOPOGON SCHOENANTHUS* (L.) Spreng. (*Andropogon schoenanthus* L.).
- No. 581. February 4, 1924. Collected near Gadaref, Sudan.
60474. *CYMOPOGON* sp.
- No. 528. January 12, 1924. Collected on the mountain side a 3-days' journey east of Debra Tabor at an altitude of 9,700 feet.
60475. *CYMOPOGON* sp.
- No. 531. January 12, 1924. Collected on the mountain side at an altitude of 9,700 feet, a 3-days' journey east of Debra Tabor.
60476. *CYMOPOGON* sp.
- No. 562. Wahini. January 27, 1924. Collected in bottom land.
60477. *CYNODON PLECTOSTACHYS* (Schum.) Pilg. Poaceæ.
Grass.
- No. 467. December 18, 1923. Collected in a river bottom, a day's journey south of Majetie, at an altitude of 5,500 feet.
- 60478 to 60480. *ELEUSINE CORACANA* (L.) Gaertn. Poaceæ.
Ragi.
60478. No. 401. December 5, 1923. Presented by H. H. Ras Tafari, Addis Ababa. Of possible value for forage and seed.
60479. No. 538. January 19, 1924. A prolific-seeded grass collected a 2-days' journey south of Gondar. Used for bread. At this elevation it would be a fine forage crop.
60480. No. 546. January 19, 1924. Found on the border of Lake Tsana a 2-days' journey south of Gondar.
- 60481 to 60486. *ERAGROSTIS* spp. Poaceæ.
- 60481 to 60485. *ERAGROSTIS ABYSSINICA* (Jacq.) Schrad. Teff.
60481. No. 418. December 11, 1923. Red teff. Purchased in Allu Amba, Ankober.
60482. No. 419. December 11, 1923. White teff. Purchased in Allu Amba, Ankober.
60483. No. 515. January 7, 1924. Lalibela market.
60484. No. 517. January 7, 1924. Lalibela market.
60485. No. 542. January 19, 1924. Found on the border of Lake Tsana a 2-days' journey south of Gondar.
60486. *ERAGROSTIS* sp. Grass.
- No. 583. Found on the plateau probably between Lalibela and Debra Tabor.
- 60487 to 60489. *Gossypium* spp. Malvaceæ.
Cotton.
60487. *Gossypium* sp.
- No. 457. December 15, 1923. Makfud market.
60488. *Gossypium* sp.
- No. 472. December 24, 1923. Purchased in the Dessie market.

60461 to 60636—Continued.

60489. *Gossypium* sp.
- No. 487. Dessie. December 28, 1923. Collected in a river valley at an altitude of 6,000 feet.
60490. *HELMINTHOCARPUM ABYSSINICUM* A. Rich. Fabaceæ.
- No. 523. Lalibela. January 7, 1924. Found on the canyon side at an altitude of 8,800 feet.
60491. *HIBISCUS* sp. Malvaceæ.
- No. 556. January 20, 1924. Found on the edge of Lake Tsana, a day's journey south of Gondar.
- 60492 to 60524. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceæ.
Sorghum.
60492. No. 412. Ankober. December 11, 1923. Purchased in a village.
60493. No. 417. December 11, 1923. Purchased in Ankober.
60494. No. 422. Ankober. December 11, 1923. Purchased in Allu Amba.
60495. No. 448. Makfud. December 15, 1923. A dry-stemmed grain sorghum found growing at an altitude of 8,000 feet.
60496. No. 456. Makfud. December 15, 1923. Found in the Robi River Valley at an altitude of 5,300 feet.
60497. No. 460. December 17, 1923. A yellow sorghum growing 15 to 18 feet in height, a 2-days' journey south of Majetie.
60498. No. 461. December 17, 1923. Panicle 2 feet in length. Found a 2-days' journey south of Majetie.
60499. No. 462. December 18, 1923. A tall sorghum, 12 to 15 feet in height, found a day's journey south of Majetie.
60500. No. 465. December 18, 1923. Found a day's journey south of Majetie.
60501. No. 468. December 23, 1923. Collected a 2-days' journey south of Dessie.
60502. No. 478. Dessie. December 24, 1923. Purchased in the market.
60503. No. 481. December 27, 1923. Found in the Mille Valley, a 2-days' journey north of Dessie at an altitude of 6,500 feet.
60504. No. 482. December 28, 1923. Collected a 3-days' journey north of Dessie in a valley at an altitude of 6,100 feet.
60505. No. 485. December 29, 1923. Collected in a valley a day's journey south of Waldia at an altitude of 6,300 feet.
60506. No. 488. Waldia. December 30, 1923. Found at an altitude of 6,400 feet.
60507. No. 492. January 2, 1924. Growing near the Ala River, a 2-days' journey west of Waldia at an altitude of 8,000 feet.
60508. No. 495. December 31, 1923. Collected a day's journey west of Waldia.
60509. No. 508. Lalibela. January 5, 1924. Found at an altitude of 8,800 feet. Not more than 3½ feet high as compared with 15 to 18 feet in the grain-sorghum valleys east of the escarpment.
60510. No. 547. January 19, 1924. Collected on the border of Lake Tsana a 2-days' journey south of Gondar.
- 60511 to 60518. January 21, 1924. Types of grain sorghum found in fields about Tsana. No. 549 [S. P. I. No. 60512] apparently does not hybridize, as it is pure on the margin of fields. All other types were picked from the interior of two adjoining fields.

60461 to 60636—Continued.

60511. No. 548. 60515. No. 552.
 60512. No. 549. 60516. No. 553.
 60513. No. 550. 60517. No. 554.
 60514. No. 551. 60518. No. 555.
60519. No. 560. January 23, 1924. Found north of Lake Tsana, a day's journey west of Gondar at an altitude 7,400 feet.
60520. No. 563. Wahini. January 28, 1924.
60521. No. 564. Wahini. January 27, 1924.
60522. No. 567. January 20, 1924. Found at the head of Lake Tsana, a day's journey south of Gondar.
60523. No. 573. Koqui. January 31, 1924.
60524. No. 579. February 4, 1924. Growing in grass, but probably from an old cultivated field near Doka, Sudan.
- 60525 to 60531. *HORDEUM* spp. Poaceæ.
60525. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 No. 443. December 12, 1923. Collected north of Ankober at an altitude of 10,400 feet.
- 60526 and 60527. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.
 December 14, 1923. Collected a 2½-days' journey north of Ankober at an altitude of 10,000 feet.
60528. No. 444. 60527. No. 445.
- 60528 and 60529. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 60528. No. 507. January 2, 1924. Collected a 3-days' journey east of Lalibela at an altitude of 11,100 feet.
60529. No. 515. January 7, 1924. Lalibela market.
60530. *HORDEUM VULGARE COELESTE* L. Six-rowed barley.
 Subvariety *Himalayense*. No. 440. December 13, 1923. From a high valley, a 2-days' journey north of Ankober, at an altitude of 10,000 feet.
60531. *HORDEUM VULGARE DUPLINIGRUM* Koern. Six-rowed barley.
 No. 500. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.
- 60532 to 60535. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.
 60532. No. 397. December 7, 1923. Obtained on the road to Ankober, Addis Ababa, at an altitude of 8,500 feet.
60533. No. 398. December 7, 1923. Obtained on the road to Ankober, Addis Ababa, at an altitude of 8,500 feet.
60534. No. 406. December 10, 1923. Obtained a half-day's journey from Ankober at an altitude of 9,600 feet.
60535. No. 434. December 12, 1923. Collected on a ridge above Ankober at an altitude of 10,000 feet.
- 60536 to 60538. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 60536. No. 407. Ankober, December 11, 1923. Purchased in a village.
60537. No. 414. Ankober, December 11, 1923. Purchased in a village.
60538. No. 424. Ankober. December 11, 1923. Purchased in Allu Amba.

60461 to 60636—Continued.

60539. *HORDEUM VULGARE COELESTE* L. Six-rowed barley.
 No. 395. Addis Ababa. December 7, 1923. Collected on the road to Ankober at an altitude of 8,400 feet.
- 60540 to 60546. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 60540. No. 399b. December 8, 1923. From a threshing field on the road to Ankober at an altitude of 9,600 feet.
60541. No. 405. December 9, 1923. Collected a day's journey west of Ankober at an altitude of 9,600 feet.
60542. No. 435. December 12, 1923. Collected on a high ridge above Ankober at an altitude of 11,000 feet.
60543. No. 453. December 15, 1923. Makfud market.
60544. No. 473. Dessie. December 24, 1923. Purchased in the market.
60545. No. 474. Dessie. December 24, 1923. Purchased in the market.
60546. No. 477. Dessie. December 24, 1923. Purchased in the market.
60547. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.
 No. 494a. January 2, 1924. Collected on the Ala River a 2-days' journey west of Waldia at an altitude of 10,900 feet.
60548. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 No. 532. January 13, 1924. From a threshing floor a 2-days' journey east of Debra Tabor at an altitude of 10,600 feet.
- 60549 and 60550. *HORDEUM DEFICIENS* Steud. Deficient barley.
 60549. No. 540. January 18, 1924. A sample of barley given to me as horse feed a 3-days' journey south of Gondar.
60550. No. 545. January 19, 1924. Collected on the border of Lake Tsana, a 2-days' journey south of Gondar.
60551. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 No. 584. February 9, 1924. From the experiment station, Khartum. Native (Beldi) barley.
60552. *IPOMOEA CAIRICA* (L.) Sweet (*I. palmata* Forsk.). Convolvulacæ.
- No. 479. Dessie. December 23, 1923. Collected in a river bottom at an altitude of 6,500 feet.
60553. *JUNIPERUS PROCERA* Hochst. Pinacæ. East African cedar.
 No. 498. January 2, 1924. Found on the Ala River at an altitude of 9,000 feet.
60554. *KOSTELETZKYA ADOENSIS* Hochst. Malvacæ.
- No. 533. January 17, 1924. A flowering herbaceous plant found in the Tsana district a day's journey west of Debra Tabor at an altitude of 7,700 feet.
- 60555 and 60556. *LATHYRUS SATIVUS* L. Fabacæ. Bitter vetch.
 60555. No. 489. Waldia. December 30, 1923. Collected at an altitude of 6,600 feet. Not previously seen.
60556. No. 509. January 4, 1924. Found in small quantity a day's journey east of Lalibela at an altitude of 9,000 feet or over.

60461 to 60636—Continued.

60557. *LENTILLA LENS* (L.) W. F. Wight (*Lens esculenta* Moench). Fabaceæ. Lentil.

No. 421. Ankober. December 11, 1923. Purchased in Allu Amba.

60558 to 60561. *LINUM USITATISSIMUM* L. Linaceæ. Flax.

60558. No. 432. Ankober. December 11, 1923. Purchased in Allu Amba.

60559. No. 455. Makfud. December 15, 1923. From the market.

60560. No. 514. Lalibela. January 7, 1924. From the market.

60561. No. 543. January 19, 1924. Collected on the border of Lake Tsana a 2-days' journey south of Gondar.

60562. *MEDICAGO HISPIDA DENTICULATA* (Willd.) Urban. Fabaceæ. Bur clover.

No. 503. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.

60563. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

No. 585. February 9, 1924. From the experiment station, Khartum, Egypt. Has proved much better than Peruvian or other hot-weather types at Khartum.

60564. *MEIBOMIA* sp. (*Desmodium* sp.). Fabaceæ.

No. 575. January 27, 1924. Seed of a small, broad-leaved legume found in a burned-over area near Wahini. Only one plant seen.

60565. *NIGELLA SATIVA* L. Ranunculaceæ.

No. 449. December 15, 1923. Purchased in the market at Makfud. This market is a large one on a mountain top where there is no town. Grain of the plateau is exchanged for cotton of the valleys and bananas of the lower levels.

60566. *OCIMUM BASILICUM* L. Menthaceæ.

No. 476. Dessie. December 24, 1923. Purchased in the market.

60567. *PANICUM* sp. Poaceæ. Grass.

No. 529. January 12, 1924. Collected on a mountain side a 3-days' journey east of Debra Tabor at an altitude of 9,700 feet.

60568 to 60572. *PENNISETUM* spp. Poaceæ.

60568. *PENNISETUM GLAUCUM* (L.) R. Br. (*P. typhoides* Rich.). Pearl millet.

No. 580. February 4, 1924. Growing in grass, but probably from an old cultivated field near Doka, Sudan.

60569 and 60570. *PENNISETUM UNISETUM* (Nees) Benth. Grass.

60569. No. 458. December 17, 1923. Collected a 2-days' journey south of Majetie at an altitude of 5,200 to 6,000 feet.

60570. No. 582. February 4, 1924. Collected near Gadaref, Sudan.

60571. *PENNISETUM* sp.

No. 527. January 12, 1924. Collected on the side of a mountain a 3-days' journey east of Debra Tabor at an altitude of 9,700 feet.

60572. *PENNISETUM HORDEIFORME* (L.) Spreng. Grass.

No. 541. January 18, 1924. A branching grass collected a 3-days' journey south of Gondar; stands heavy pasturing in the Tsana Flats.

60573 to 60579. *PHASEOLUS* spp. Fabaceæ.

60461 to 60636—Continued.

60573 and 60574. *PHASEOLUS AUREUS* Roxb. Mung bean.

60573. No. 415. Ankober. December 11, 1923. Presented by Desta Heile. Seed said to swell when cooked and to become soft like butter.

60574. No. 416a. Ankober. December 11, 1923. Presented by Desta Heile.

60575 to 60579. *PHASEOLUS VULGARIS* L. Fabaceæ. Common bean.

60575. No. 413. Ankober. December 11, 1923. Purchased in a village.

60576 to 60578. Ankober. December 11, 1923. Presented by Desta Heile.

60576. No. 416b. Chocolate with black markings.

60577. No. 416c. Dark gray.

60578. No. 416a. White.

60579. No. 428. Ankober. December 11, 1923. Purchased in Allu Amba.

60580. *PHRAGMITES VULGARIS* (Lam.) B. S. P. Poaceæ. Grass.

No. 463. December 18, 1923. Collected in swamp land a day's journey south of Majetie.

60581 to 60584. *PISUM SATIVUM* L. Fabaceæ. Pea.

60581. No. 427. Ankober. December 11, 1923. Purchased in Allu Amba.

60582. No. 475. Dessie. December 24, 1923. Purchased in the market.

60583. No. 522. Lalibela. January 7, 1924. From the market.

60584. No. 439. December 13, 1923. Collected a 2-days' journey from Ankober at an altitude of 10,200 feet.

60585. *ROSA* sp. Rosaceæ. Rose.

No. 404. December 9, 1923. A lavender-flowered plant from a canyon side, near Ankober, at an altitude of 9,500 feet.

60586. *RUBUS* sp. Rosaceæ.

Seeds of unknown origin, accompanying Doctor Harlan's shipment.

60587. *SACCHARUM* sp. Poaceæ. Grass.

No. 464. December 18, 1923. From swamp land a day's journey south of Majetie.

60588 and 60589. *SESAMUM ORIENTALE* L. Pedaliaceæ. Sesame.

60588. No. 429. Ankober. December 11, 1923. Purchased in Allu Amba.

60589. No. 572. Koqui. January 31, 1924.

60590. *TRICHOAENA ROSEA* Nees. Poaceæ. Natal grass.

No. 459. December 17, 1923. Collected a 2-days' journey south from Majetie at an altitude of 5,200 to 6,000 feet.

60591. *TRICHOPTERYX* sp. Poaceæ. Grass.

No. 565. January 25, 1924. Collected a day's journey west of Chelga.

60592. *TRIFOLIUM PROCUMBENS* L. Fabaceæ.

No. 524. Lalibela, January 7, 1924. Collected on the side of a canyon at an altitude of 8,800 feet.

60593. *TRIFOLIUM* sp. Fabaceæ. Clover.

No. 502. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.

60461 to 60636—Continued.

60594. *TRIFOLIUM* sp. Fabaceæ. Clover.
No. 504. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.
60595. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceæ. Fenugreek.
No. 518. January 7, 1924. A cultivated legume obtained in the Lalibela market.
- 60596 to 60625. *TRITICUM* spp. Poaceæ.
- 60596 to 60613. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Common wheat.
60596. No. 12. From Pusa, India.
60597. No. 396. Addis Ababa. December 7, 1923. Secured on the road to Ankober at an altitude of 9,600 feet.
60598. No. 400. December 8, 1923. Collected on the road to Ankober at an altitude of 9,400 feet.
60599. No. 408. Ankober. December 11, 1923. Purple wheat, purchased in a village.
60600. No. 410. Ankober. December 11, 1923. Purchased in a village.
60601. No. 420. Ankober. December 11, 1923. Purchased in Allu Amba.
60602. No. 436. Ankober. December 13, 1923. Wheat found growing at an altitude of 10,400 feet; all seeds above that altitude were barley.
60603. No. 437. Ankober. Collected at an altitude of 10,000 feet. This was the second lot of wheat found.
60604. No. 441. December 14, 1923. Found growing a 3-days' journey north of Ankober at an altitude of 9,000 feet. Stacked with field peas and broad beans.
60605. No. 442. December 14, 1923. Collected a 2-days' journey north of Ankober at an altitude of 10,300 feet.
60606. No. 451. Makfud. December 15, 1923. Obtained in the market.
60607. No. 452. Makfud. December 15, 1923. Obtained in the market.
60608. No. 454. Makfud. December 15, 1923. Obtained in the market.
60609. No. 493. January 2, 1924. Collected on the Ala River a 2-days' journey west of Waldia at an altitude of 9,000 feet.
60610. No. 505. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 9,500 feet.
60611. No. 511. January 5, 1924. From a threshing floor in Ashatan Mariam, Lalibela, at an altitude of 8,000 feet.
60612. No. 559. January 23, 1924. Collected north of Lake Tsana a day's journey west of Gondar at an altitude of 7,500 feet.
60613. No. 568. January 20, 1924. Found growing at the head of Lake Tsana a day's journey south of Gondar.
- 60614 to 60616. *TRITICUM DICOCUM* Schrank. Emmer.
60614. No. 471. December 26, 1923. Collected near Dessie at an altitude of 7,200 feet.
60615. No. 491. January 2, 1924. Collected on the Ala River, a 2-days' journey west of Waldia, at an altitude of 9,000 feet.
60616. No. 576. Record lost, but obviously from the plateau.
- 60617 and 60618. *TRITICUM TURGIDUM* L. Poulard wheat.

60461 to 60636—Continued.

60617. No. 525. January 12, 1924. Found growing a 3-days' journey east of Debra Tabor at an altitude of 9,800 feet.
60618. No. 558. January 23, 1924. Collected north of Lake Tsana a day's journey west of Gondar, at an altitude of 7,500 feet.
60619. *TRITICUM* spp. Wheat.
- No. 469. December 23, 1923. Mixed seed found growing a 2-days' journey south of Dessie—the first small grain found above the sorghum belt.
60620. *TRITICUM TURGIDUM* L. Poulard wheat.
- No. 470. December 23, 1923. Found growing a 2-days' journey south of Dessie—the first small grain found above the sorghum belt.
60621. *TRITICUM* spp. Wheat.
- No. 480. Dessie. December 24, 1923. Mixed seed purchased in the market.
60622. *TRITICUM* spp. Wheat.
- No. 490. January 2, 1924. Mixed seed found on the Ala River a 2-days' journey west of Waldia at an altitude of 10,000 feet.
60623. *TRITICUM* spp. Wheat.
- No. 494b. January 2, 1924. Mixed seed found on the Ala River a 2-days' journey west of Waldia at an altitude of 10,000 feet.
60624. *TRITICUM* spp. Wheat.
- No. 499. January 3, 1924. Mixed seed collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet. Ice, which probably forms every night, was seen one hour after sunrise beside emmer fields that were in the best of condition.
60625. *TRITICUM* spp. Wheat.
- No. 526. January 11, 1924. Mixed seed found a 4-days' journey east of Debra Tabor at an altitude of 9,800 feet.
- 60626 to 60630. *VICIA FABA* L. Fabaceæ. Broad bean.
60626. No. 409. Ankober. December 11, 1923. Purchased in a village.
60627. No. 411. Ankober. December 11, 1923. Purchased in a village.
60628. No. 425. Ankober. December 11, 1923. Purchased in Allu Amba.
60629. No. 516. Lalibela. January 7, 1924. Obtained in the market.
60630. No. 569. January 20, 1924. Collected at the head of Lake Tsana a day's journey south of Gondar.
60631. *VICIA* sp. Fabaceæ. Vetch.
- No. 447. Makfud. December 15, 1923. Found in a rocky waste place at an altitude of 9,000 feet.
60632. *VIGNA CYLINDRICA* (Stickm.) Skeels. Fabaceæ. Catjang.
- No. 416d. Ankober. December 11, 1923. Presented by Desta Helle.
60633. *VIGNA SINENSIS* (Torner) Savi. Fabaceæ. Cowpea.
- No. 571. Kowul. January 31, 1924.
- 60634 and 60635. *ZEA MAYS* L. Poaceæ. Corn.
60634. No. 433. Ankober. December 11, 1923. Purchased in Allu Amba.
60635. No. 480. Dessie. December 24, 1923. Purchased in the market.
60636. (Undetermined.)
- No. 574. Record lost, but probably seed of sweet-scented flowering tree in the Tsana region.

60637 to 60648.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received May 6, 1924.

60637 to 60639. *BERBERIS* spp. Berberidaceæ.
Barberry.

60637. *BERBERIS INSIGNIS* Hook. f. and Thoms.

A beautiful hollylike bush of erect habit, with very few spines and large, shining, evergreen leaves 3 to 7 inches in length. The golden-yellow flowers are borne in clusters of about 15 and are followed by ovoid, black berries. Native to the eastern Himalayas.

For previous introduction, see S. P. I. No. 55671.

60638. *BERBERIS NAPAULENSIS* (DC.) Spreng.

An evergreen shrubby Himalayan barberry which is probably too tender for any but the southern sections of the United States. In its native home it becomes 20 feet in height, and the dark, glossy green compound leaves consist of 15 to 20 spine-toothed, leathery leaflets. The yellow flowers are in slender racemes up to a foot in length, and the roundish berries are covered with a bluish white bloom.

For previous introduction, see S. P. I. No. 57884.

60639. *BERBERIS WALLICHIANA* DC.

A narrow-leaved, evergreen barberry from temperate regions in the Himalayas, where it ascends to about 10,000 feet. The shining black-purple berries are produced in dense clusters.

For previous introduction, see S. P. I. No. 55673.

60640. *BETULA CYLINDROSTACHYA* Wall. Betulaceæ.

A Himalayan birch which grows as a tall, deciduous tree at an altitude of 6,000 feet along the northeastern border of India. The wood is red, hard, and heavy and seasons well. The tree might be sufficiently hardy to grow in parts of Florida and California.

For previous introduction, see S. P. I. No. 39002.

60641. *BUCKLANDIA POPULNEA* R. Br. Hamamelidaceæ.

A large evergreen tree, 80 feet or less in height, native to the eastern Himalayas at altitudes of 3,000 to 8,000 feet. The wood is grayish brown, close grained, and durable, and is commonly used in Darjiling for planking and for doors and window frames.

For previous introduction, see S. P. I. No. 55674.

60642. *CRACCA CANDIDA* (DC.) Kuntze (*Te-phrosia candida* DC.). Fabaceæ.

A low shrub with slender velvety branches, smooth green leaves 6 to 9 inches long, with gray silky lower surfaces, and copious terminal and lateral clusters of reddish or white flowers. It is native to the more tropical of the Himalayas, ascending to 5,000 feet altitude.

For previous introduction, see S. P. I. No. 55678.

60643. *ENGELHARDTIA SPICATA* Leschen. Juglandaceæ.

This large, handsome tree, which belongs to the walnut family, grows wild on the foothills of the eastern Himalayas, and is probably adapted for growing only in the Gulf States. The thick, brown bark contains much tannin, and the wood, which is said not to check, shows a beautiful grain.

For previous introduction, see S. P. I. No. 47842.

60637 to 60648—Continued.

60644. *GAULTHERIA FRAGRANTISSIMA* Wall. Ericaceæ.

A very fragrant evergreen shrub or small tree found in the mountains of India from Nepal eastward to Bhutan. In summer it is loaded with white or pinkish flowers which are followed by beautiful racemes of blue-purple fruits.

For previous introduction, see S. P. I. No. 48309.

60645. *HYDRANGEA ROBUSTA* Hook. f. and Thoms. Hydrangeaceæ.

A vigorous, spreading, shrubby hydrangea which is native to the mountainous regions of northeastern India, and therefore probably best adapted to the southern part of the United States. The short-stemmed, oval leaves are coarsely toothed, and the flowers, with white sepals, blue petals, and stamens, are produced in loose, spreading corymbs with red pedicels.

For previous introduction, see S. P. I. No. 55681.

60646. *ILEX INSIGNIS* Hook. f. Aquifoliaceæ.

An attractive holly from the Sikkim Himalayas where it grows at an altitude of 7,000 feet. It forms a small tree or shrub with thick grooved branches which are purplish when young. The dark-green leathery leaves are pinnately lobed, with lobes spine tipped and alternately raised and depressed, so that there appears to be a double row of spiny lobes on each side. This holly has proved hardy in Ireland and may be suited for growing in the Gulf States and southern California.

For previous introduction, see S. P. I. No. 55682.

60647. *INDIGOFERA DOSUA TOMENTOSA* Baker. Fabaceæ.

A low, shrubby, hairy indigo from the temperate parts of the Himalayas, where it grows at altitudes of 1,000 to 5,000 feet. The dull-green compound leaves, 9 inches in length, and the long racemes of bright-red flowers make this a decidedly ornamental species.

For previous introduction, see S. P. I. No. 55748.

60648. *LAGERSTROEMIA PARVIFLORA* Roxb. Lythraceæ.

This Himalayan relative of the crape myrtle (*Lagerstroemia indica*) is a tree 50 to 70 feet high, with green, leathery leaves and fragrant white flowers, half an inch wide, in axillary or terminal panicles. The wood is very tough and durable.

For previous introduction, see S. P. I. No. 53582.

60649. *COTONEASTER SALICIFOLIA FLOCCOSA* Rehd. and Wils. Malaceæ.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

A graceful shrub, up to 13 feet high, which bears dense corymbs of white flowers and light-red roundish fruits. Native to western China at altitudes of 7,500 to 9,800 feet.

For previous introduction, see S. P. I. No. 53693.

60650 to 60659.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received May 6, 1924.

60650. *LEUCOSCEPTRUM CANUM* J. E. Smith. Menthaceæ.

According to Hooker (Flora of British India) this tree, which belongs to the mint family, is stout branched and densely hairy, and the narrowly oval leaves are silvery beneath and at times a foot in length. The small white or pinkish flowers are in spikes.

For previous introduction, see S. P. I. No. 57888.

60650 to 60659—Continued.

60651. *LIGUSTRUM CONFUSUM* Decaisne. Oleaceae.

A small tree, up to 40 feet in height, one of the tropical relatives of the California privet (*Ligustrum ovalifolium*). The leathery, obtuse leaves are about 3 inches long, and the small white flowers are in panicles 1 to 5 inches long.

60652. *MEIBOMIA SEQUAX* (Wall.) Kuntze (*Desmodium sequax* Wall.). Fabaceae.

The brownish or grayish hairs which cover the branches of this low Himalayan shrub and the large racemes of red flowers make it of possible value as an ornamental for the warmer parts of the United States.

For previous introduction, see S. P. I. No. 47725.

60653. *PIERIS OVALIFOLIA* (Wall.) D. Don (*Andromeda ovalifolia* Wall.). Ericaceae.

Although this shrub or small tree may prove of value as a semihardy ornamental because of its racemes of bluish or white flowers, it is used as an insecticide in its native country, India, because of the presence of a poisonous principle in the young leaves and buds. The oblong, leathery leaves are 3 to 6 inches long.

For previous introduction, see S. P. I. No. 47755.

60654. *PRUNUS CERASODES* D. Don (*P. pudum* Roxb.). Amygdalaceae.

A handsome, ornamental cherry with pendulous rose-red or white solitary flowers which appear before the bright, glossy green leaves. The tree is native to the highlands of Burma and is said to endure light frosts in its native country.

For previous introduction, see S. P. I. No. 57680.

60655. *RHODODENDRON ARBOREUM* J. E. Smith. Ericaceae.

This Himalayan rhododendron is variable both in its foliage and in the color of its flowers. In one form the leaves are silvery on the lower surface, while in another they are covered with a brownish red down. The bell-shaped flowers, borne in dense trusses, vary from deep crimson to pure white. The tree sometimes reaches a height of 35 feet, with a trunk 4 feet in circumference.

For previous introduction, see S. P. I. No. 55697.

60656. *STYRAX HOOKERI* C. B. Clarke. Styracaceae.

The storaxes in general are handsome shrubs of graceful, spreading habit, and this Himalayan representative of the genus is no exception to the rule. Its white flowers, in small racemes, are sometimes an inch wide, and the fruits are white-hairy drupes half an inch long. According to Hooker (*Flora of British India*) this is perhaps only a form of *Styrax serrulatum*.

60657. *VACCINIUM DUNALIANUM* Wight. Vacciniaceae.

Many of the wild species of *Vaccinium* are being tested by department horticulturists for the purpose of determining the food value of the fruits. This species is a large erect shrub from the mountainous regions of northeastern India, and it will probably not withstand much frost.

For previous introduction, see S. P. I. No. 47821.

60658. *ZANTHOXYLUM ACANTHOPODIUM* DC. Rutaceae.

A shrub or small tree with vertically flattened prickles on the trunk and branches and dense foliage with a pungent, aromatic odor. The small, pale-red fruits are in loose panicles. Native to warm valleys in the subtropical Himalayas at altitudes of 4,000 to 7,000 feet.

60650 to 60659—Continued.

60659. *ZANTHOXYLUM OXYPHYLLUM* Edgeworth. Rutaceae.

A Himalayan shrub with the branches and leaves covered with hooked prickles; the leaves are shining green and exceedingly variable in size. This species is native to temperate regions in northeastern India at altitudes of 4,000 to 8,000 feet.

60660 to 60674. *HORDEUM* spp. Poaceae.

From Ariana, near Tunis, Tunisia, Africa. Seeds presented by Dr. F. Boeuf, chief, Botanical Service, Tunis, through H. V. Harlan, Bureau of Plant Industry. Received June 16, 1924. Notes by Doctor Boeuf.

Introduced for cereal specialists.

60660 to 60673. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

60660. 1921-0.9. Tripoli.

60661. 1921-0.10. Tripoli. For forage.

60662. No. 20. Egypt.

60663. 1921-0.7. Tripoli.

60664. 1921-0.4. Tripoli.

60665. *Revil* No. 1. For forage.

60666. No. 4a.

60667. No. 14j.

60668. No. 88. Smyrna.

60669. No. 147-0.13. Besert.

60670. No. 147-0.14. Besert.

60671. No. 167. Biskra.

60672. No. 175. Morocco.

60673. No. 186.

60674. *HORDEUM INTERMEDIUM* HAXTONI Koern. Barley.

No. 149. *Arlington* Awnless.

60675 to 60743.

From Giza, Egypt. Seeds presented by the Ministry of Agriculture, Giza, through H. V. Harlan, Bureau of Plant Industry. Received June 16, 1924.

60675 to 60701. *HORDEUM* spp. Poaceae.

60675 to 60682. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

60675. *Beladi*. (Egyptian.)

60676. *Herrawi*. (Egyptian.)

60677. *Herrawi*. (Egyptian.) Received from the provinces.

60678. *Qennari*. (Egyptian.) Received from Beheira Province.

60679. *Indian*. Four rowed.

60680. *Indian*. Six rowed.

60681. *Mariout*. (Egyptian.) Received from Beheira Province.

60682. *Mnari*. (Egyptian.) Received from Giza Province. Probably the same as Qennari [S. P. I. No. 60678.]

60683 to 60692. *HORDEUM* spp.

Abyssinia.

60683. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

No. 1.

60684. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

No. 2.

60675 to 60743—Continued.

60685. *HORDEUM VULGARE NIGRUM* (Willd.)
Beaven. Six-rowed barley.
No. 3.
60686. *HORDEUM VULGARE PALLIDUM* Ser-
inge. Six-rowed barley.
No. 5.
60687. *HORDEUM VULGARE PALLIDUM* Ser-
inge. Six-rowed barley.
No. 6.
60688. *HORDEUM VULGARE PALLIDUM* Ser-
inge. Six-rowed barley.
No. 7.
60689. *HORDEUM VULGARE DUPLINIGRUM*
Koern. Six-rowed barley.
No. 8.
60690. *HORDEUM VULGARE COELESTE* L.
Six-rowed barley.
No. 8a.
60691. *HORDEUM VULGARE COELESTE* L.
Six-rowed barley.
No. 9.
60692. *HORDEUM DEFICIENS* Steud.
Deficient barley.
No. 11.
60693. *HORDEUM DISTICHON NUDUM* L.
Naked barley.
No. 12.
- 60694 to 60699. *HORDEUM* spp.
Abyssinia.
60694. *HORDEUM DEFICIENS* Steud.
Deficient barley.
No. 13.
60695. *HORDEUM DEFICIENS STEUDELII*
(Koern.) Harlan. Deficient barley.
No. 14.
60696. *HORDEUM DEFICIENS* Steud.
Deficient barley.
No. 16.
60697. *HORDEUM DEFICIENS STEUDELII*
(Koern.) Harlan. Deficient barley.
No. 18.
60698. *HORDEUM VULGARE PALLIDUM* Ser-
inge. Six-rowed barley.
No. 18.
60699. *HORDEUM VULGARE NIGRUM* (Willd.)
Beaven. Six-rowed barley.
No. 19.
60700. *HORDEUM VULGARE COELESTE* L.
Six-rowed barley.
Nebawi. (Egyptian.)
60701. *HORDEUM DISTICHON PALMELLA* Harlan.
Two-rowed barley.
Sinai.
- 60702 to 60743. *TRITICUM* spp. Poaceæ.
- 60702 and 60703. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Common wheat.
60702. *Sinai* No. 4.
60703. *Sinai* No. 5.
- 60704 to 60706. *TRITICUM DICOCCUM* Schrank.
Emmer.
Abyssinia.
60704. No. 16. 60706 No. 18.
60705. No. 17.
- 60707 to 60712. *TRITICUM DURUM* Desf.
Durum wheat.

60675 to 60743—Continued.

- 60707 to 60711. *Abyssinia*.
60707. No. 6. 60710. No. 29.
60708. No. 25. 60711. No. 30.
60709. No. 27.
60712. *Gawi*, which is also "Beladi" or native
Egyptian wheat.
- 60713 to 60715. *TRITICUM TURGIDUM* L.
Poulard wheat.
60713. *Beladi* No. 42.
60714. *Sinai* No. 1.
60715. *Sinai* No. 2.
- 60716 to 60723. *TRITICUM DURUM* Desf.
Durum wheat.
Abyssinia.
60716. No. 2. 60720. No. 11.
60717. No. 3. 60721. No. 12.
60718. No. 9. 60722. No. 15.
60719. No. 10a. 60723. No. 20.
60724. *TRITICUM TURGIDUM* L. Poulard wheat.
No. 21.
60725. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.).
Common wheat.
No. 26a.
- 60726 and 60727. *TRITICUM DURUM* Desf.
Durum wheat.
60726. No. 28. 60727. No. 31.
60728. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.).
Common wheat.
No. 43.
60729. *TRITICUM TURGIDUM* L. Poulard wheat.
No. 44.
- 60730 to 60739. *TRITICUM DURUM* Desf.
Durum wheat.
Beladi.
60730. No. 9. 60735. No. 31.
60731. No. 24b. 60736. No. 33.
60732. No. 25. 60737. No. 33a.
60733. No. 25a. 60738. No. 45.
60734. No. 26.
60739. *Fayum A*, which is also called "Be-
ladi" or native Egyptian wheat.
60740. *TRITICUM* sp. Wheat.
Sinai. No. 3.
- 60741 to 60743. *TRITICUM DURUM* Desf.
Durum wheat.
60741. No. 5. 60743. No. 9.
60742. No. 8.
- 60744 to 60956.
- From Leningrad, Russia. Seeds presented by Dr.
N. I. Vavilov, director of the Bureau of Applied
Botany and Plant Breeding. Received June
19, 1924. Notes by Doctor Vavilov.
- 60744 and 60745. *AGROPYRON CRISTATUM* (L.)
Gaertn. Poaceæ. Wheat grass.
60744. No. 1733. Province of Moscow. A
broadly spicate variety from the experiment
station of Krasny Kut.
60745. No. 1732. Province of Samara. A
narrowly spicate variety from the experiment
station of Krasny Kut.
- 60746 and 60747. *AGROSTIS PALUSTRIS* Huds. Po-
aceæ. Redtop.

60744 to 60956—Continued.

60746. No. 1762. Province of Tambov. From the grassland station of Marusino.
60747. No. 1875. Province of Moscow. From the State Institution for Grassland Investigations.
- 60748 and 60749. *ALOPECURUS PRATENSIS* L. Poaceæ. Meadow foxtail.
60748. No. 1463. Province of Moscow. From the Bekasovskaia Experiment Station.
60749. No. 1468. Province of Moscow. From the Bekasovskaia Experiment Station.
60750. *ANTHOXANTHUM ODORATUM* L. Poaceæ. Sweet vernal grass.
- No. 57. Estate "Castle Zagnitz," Livland.
- 60751 to 60770. *AVENA SATIVA* L. Poaceæ. Oats.
60751. No. 1181. Province of Samara.
60752. No. 1249. Semiretsh, Turkestan.
60753. No. 1250. Syr Daria, Turkestan.
60754. No. 1253. Province of Samara. A very early variety.
60755. No. 1256. Province of Saratov.
60756. No. 1254. Province of Saratov.
60757. No. 1286. Province of Samara.
60758. No. 1311. Province of Kherson. *Rychlik*.
60759. No. 1425. Province of Don. *Armavirsky*.
60760. No. 1433. Province of Yeniseisk, Siberia.
60761. No. 1435. Province of Yeniseisk, Siberia.
60762. No. 1445. Province of Vologda.
60763. No. 1506. Province of Astrakhan.
60764. No. 1526. Semipalatinsk, Turkestan.
60765. No. 1547. Province of Tobolsk, Siberia.
60766. No. 1550. Province of Tobolsk, Siberia.
60767. No. 1581. Semiretsh, Turkestan. An irrigated variety.
60768. No. 2306. Province of Tula. An improved variety.
60769. No. 2896. Province of Viatka. *Tshervonny*. A selection taken from *Triticum dicoccum*.
60770. No. 2149. Province of Simbirsk.
- 60771 and 60772. *BECKMANNIA ERUCAEFORMIS* (L.) Host. Poaceæ. Slough grass.
60771. No. 458. Estate "Castle Zagnitz," Livland.
60772. No. 2025. Province of Poltava. From the Berezototshskaia Experiment Station.
- 60773 to 60793. *BRASSICA* spp. Brassicaceæ.
- 60773 and 60774. *BRASSICA ALBA* (L.) Boiss. White mustard.
60773. No. 68. Province of Saratov.
60774. No. 321. Province of Orel.
- 60775 and 60776. *BRASSICA JUNCSEA* (L.) Coss. Mustard.
60775. No. 28. Province of Astrakhan. *Sarepta*.
60776. No. 33. Province of Saratov. *Sarepta*.
- 60777 to 60789. *BRASSICA OLERACEA CAPITATA* L. Cabbage.
- Province of Moscow.
60777. No. 242. Dubrovkaia.
60778. No. 243. Valvatievka.

60744 to 60956—Continued.

60779. No. 244. Rogatshevka.
60780. No. 245. Kubyska.
60781. No. 246. Bunkovskaia.
60782. No. 247. Maklavovskaia.
60783. No. 248. Elginskaia.
60784. No. 249. Slava (= Glorija).
60785. No. 250. Zaborievkaia.
60786. No. 251. Saburovka.
60787. No. 252. Savinskaia.
60788. No. 253. A local variety; head on shortened stump.
60789. No. 254. A local variety; head on long stump.
- 60790 to 60793. *BRASSICA RAPA* L. Turnip.
- Province of Moscow.
60790. No. 30. *Kostenevkaia*. Experiment Station of Gribovo.
60791. No. 115. *Petrovkaia*. Flat yellow. A very early variety.
60792. No. 117. *Petrovkaia*. Flat yellow. An early variety.
60793. No. 118. *Petrovkaia*. Flat yellow. An early variety.
- 60794 and 60795. *BROMUS INERMIS* Leyss. Poaceæ. Brome grass.
60794. No. 1911. Province of Saratov.
60795. No. 2029. Province of Poltava. From the Berezototshskaia Experiment Station. A local wild variety.
- 60796 to 60817. *CANNABIS SATIVA* L. Moraceæ. Hemp.
60796. No. 251. Province of North Dvinsk (Archange).
60797. No. 278. Province of Saratov. A variety of wild hemp.
60798. No. 345. Province of Saratov.
60799. No. 349. Province of Moscow.
60800. No. 360. Province of Irkutsk.
60801. No. 368. Province of Kaluga.
60802. No. 369. Province of Voronezh.
60803. No. 388. Province of Orel.
60804. No. 400. Province of Kostroma. A local variety.
60805. No. 402. Province of Viatka.
60806. No. 403. Province of Yakutsk.
60807. No. 406. Province of Pensa.
60808. No. 420. Caucasus.
60809. No. 426. Province of Vologda.
60810. No. 427. Province of Perm.
60811. No. 428. Province of Altai, Siberia.
60812. No. 431. Tyumen, Siberia.
60813. No. 440. Province of Yakutsk, eastern Siberia.
60814. No. 444. Primorskaia Province.
60815. No. 455. Province of Tambov.
60816. No. 459. Province of Poltava.
60817. No. 464. Province of Gomel.
- 60818 to 60821. *CICER ARIETINUM* L. Fabaceæ. Chick-pea.

60744 to 60956—Continued.

60818. No. 1. Province of Samara. From the experiment station of Krasny Kut.
60819. No. 3. From Persia. Var. *Feizabab*.
60820. No. 6. Pamir, Shid Roshan.
60821. No. 7. Bokhara, Vantch.
- 60822 to 60828. CITRULLUS VULGARIS Schrad. Cucurbitaceae. Watermelon.
60822. No. 287. Province of Ekaterinoslav. Black-whisker variety.
60823. No. 288. Province of Ekaterinoslav. *Azhinovski*.
60824. No. 289. Province of Ekaterinoslav. *Crimean Conqueror*.
60825. No. 291. Province of Saratov. *Murashka*. An early, extremely sweet variety.
60826. No. 295. Province of Kherson. *Chersonski*.
60827. No. 296. Province of Ekaterinoslav. *Favorite of Pjatigorsk*.
60828. No. 307. Province of Don. A spotted variety.
- 60829 to 60835. CUCUMIS MELO L. Cucurbitaceae. Melon.
60829. No. 338. Province of Ekaterinoslav. A Crimean variety.
60830. No. 348. Kubani.
60831. No. 355. Kubani.
60832. No. 356. Province of Astrakhan. *Ananas*.
60833. No. 358. Province of Astrakhan. *Bucharka*.
60834. No. 360. Province of Saratov. An early variety.
60835. No. 361. Province of Saratov. *Pink honey*.
- 60836 to 60841. CUCURBITA MAXIMA Duchesne. Cucurbitaceae. Squash.
60836. No. 443. Province of Saratov. *Volzhaska*.
60837. No. 444. Province of Samara. *Volzhaska*.
60838. No. 447. Province of Astrakhan.
60839. No. 450. Turkestan.
60840. No. 465. Province of Saratov. Turban variety.
60841. No. 466. Province of Moscow. Giant marble variety.
- 60842 and 60843. CUCURBITA PEPO L. Cucurbitaceae. Pumpkin.
60842. No. 410. Province of Kharkof. A naked-seeded variety.
60843. No. 462. Province of Saratov.
- 60844 and 60845. DACTYLIS GLOMERATA L. Poaceae. Orchard grass.
60844. No. 1633. Province of Kostroma, District of Nerechta. Seed nursery of Shachmatovo.
60845. No. 1678. Province of Tver. Seed nursery of Shokorovskig.
- 60846 to 60849. FESTUCA ELATIOR L. Poaceae. Meadow fescue.
60846. No. 1076. Province of Petrograd. Seed nursery of Sivoritzkig.
60847. No. 1621. Province of Vologda. San-nikovo seed husbandry.

60744 to 60956—Continued.

60848. No. 1677. Province of Tver. Seed nursery of Shokorovskig.
60849. No. 2034. Province of Poltava. Berezo-totshskaia Experiment Station.
60850. FESTUCA OVINA L. Poaceae. Sheep's fescue.
- No. 1345. Province of Vologda.
60851. FESTUCA RUBRA L. Poaceae. Red fescue.
- No. 1170. Province of Irkutsk. Experiment station of Tulun.
60852. GOSSYPIUM HERBACEUM L. Malvaceae. Cotton.
- No. 109. *Guza*. A local Turkestan variety.
60853. HELIANTHUS ANNUUS L. Asteraceae. Sunflower.
- No. 187. A selected type by the experiment station of Saratov.
- No. 188. A variety from the experiment station of Saratov.
- No. 189. From the experiment station of Saratov.
- No. 278. Province of Yeniseisk, Siberia.
- No. 279. Province of Semipalatinsk, Turkestan.
- Nos. 280, 281, 282. Province of Primorskaia.
- No. 283. Manchuria.
- No. 284. Turkestan.
- No. 285. Province of Yeniseisk, District of Minusinsk, Siberia.
- Nos. 289 and 290. Province of Tambov.
- Nos. 293 and 294. Province of Voronezh.
60854. LATHYRUS SATIVUS L. Fabaceae. Bitter vetch.
- No. 2092. Mountain Buchara. Var. *azureus*.
- 60855 to 60861. LENTILLA LENS (L.) W. F. Wight (*Lens esculenta* Moench). Fabaceae. Lentil.
60855. No. 8. Persia.
60856. No. 15. Daghestan.
60857. No. 19. Bokhara.
60858. No. 181. Mongolia.
60859. No. 244. Province of Kiev.
60860. No. 263. Province of Pensa.
60861. No. 303. Province of Saratov.
- 60862 to 60871. LINUM USITATISSIMUM L. Linaceae. Flax.
60862. No. 4. Vitebsk. Fiber flax.
60863. No. 5. Ribinsk. Fiber flax.
60864. No. 132. Tver. Fiber flax.
60865. No. 250. Pskov. Fiber flax.
60866. No. 253. Saratov. Oil flax.
60867. No. 460. Dvinsk. Fiber flax.
60868. No. 512. Vologda. Fiber flax.
60869. No. 523. Pskov. Fiber flax.
60870. No. 524. Pskov. Fiber flax.
60871. No. 633. Stavropol, Caucasus. Oil flax.
60872. LOLIUM MULTIFLORUM Lam. Poaceae. Italian rye grass.
- No. 1516. Province of Moscow. Bekasovskaia Experiment Station.
- 60873 and 60874. LOLIUM PERENNE L. Poaceae. Perennial rye grass.

60744 to 60956—Continued.

60873. No. 819. Province of Tambov. Grassland station of Marusino.
60874. No. 1863. Province of Moscow. State Institution for Grassland Investigations.
60875. *LOTUS CORNICULATUS* L. Fabaceæ.
- No. 1861. Province of Moscow. State Institution for Grassland Investigations.
60876. *MEDICAGO FALCATA* L. Fabaceæ.
- No. 1741. Province of Samara. Experiment station of Krasny Kut.
- 60877 and 60878. *MEDICAGO SATIVA* L. Fabaceæ. *Alfalfa*.
60877. No. 1769. Kuban, District of Armavir.
60878. No. 1771. Chiva.
60879. *ONOBRYCHIS VULGARIS* Hill (*O. viciaefolia* Scop.). Fabaceæ.
- No. 1916. Province of Poltava.
60880. *ORNITHOPUS SATIVUS* Brot. Fabaceæ. *Serradella*.
- No. 1866. Province of Tshernigov.
60881. *PHALARIS ARUNDINACEA* L. Poaceæ. *Reed canary grass*.
- No. 2030. Province of Poltava.
- 60882 to 60887. *PHLEUM PRATENSE* L. Poaceæ. *Timothy*.
60882. No. 1655. Province of Ekaterinburg.
60883. No. 1676. Province of Tver.
60884. No. 1715. Province of Tambov.
60885. No. 1930. Province of Vologda.
60886. No. 1946. Province of Yaroslav.
60887. No. 2059. Province of Tambov.
- 60888 to 60935. *PISUM SATIVUM* L. Fabaceæ. *Pea*.
60888. No. 209. Omsk, western Siberia.
60889. No. 240. Daghestan. A local, unimproved gray variety.
60890. No. 241. Province of Riazan. A local unimproved white variety.
60891. No. 280. Province of Saratov. A local unimproved variety.
60892. No. 943. Archangel, North Dvinsk. A local unimproved variety.
60893. No. 966. East Mongolia. A local unimproved variety collected on the Mongolian expedition.
60894. No. 972. Collected on the Mongolian expedition.
60895. No. 1097. Province of Vladimir. A local unimproved mixed variety.
60896. No. 1098. Province of Tsheliabinsk. A local unimproved mixed variety.
60897. No. 1099. Province of Ekaterinburg. A local unimproved mixed variety.
60898. No. 1101. Province of Kaluga. A local unimproved mixed variety.
60899. No. 1105. Province of Pskov. A local unimproved variety.
60900. No. 1108. Province of Perm. A local unimproved variety.
60901. No. 1118. Province of Tyumen. A local unimproved variety.
60902. No. 1119. Province of Vitebsk. A local unimproved variety.

60744 to 60956—Continued.

60903. No. 1121. Province of Yaroslav. A local unimproved variety.
60904. No. 1131. Province of Smolensk. A local unimproved variety.
60905. No. 1435. Province of Kostroma. A local unimproved variety.
60906. No. 1529. Province of Archangel. A local unimproved variety.
60907. No. 1591. Archangel, North Dvinsk.
60908. No. 1625. The Tartarian Republic, Kazan. A local unimproved mixed variety.
60909. No. 1643. Province of Pskov. A local unimproved variety.
60910. No. 1651. Province of Smolensk. *Pel-jushka*. Engelgardt Experiment Station.
60911. No. 1767. Voronezh. *Asparagus*. Experiment station of the Bureau of Applied Botany and Plant Breeding. A spotted variety selected by Dr. A. I. Malzev.
- 60912 to 60935. *PISUM SATIVUM* L. Fabaceæ. *Pea*.
60912. No. 19. Omsk, western Siberia.
60913. No. 316. Province of Irkutsk. *The hybrid of Tulun*. A selection by Dr. V. E. Pissarev, of the Eastern Siberian Experiment Station.
60914. No. 1106. Gorskaia (Mountain) Republic, Caucasus. A local unimproved variety.
60915. No. 1115. Volhynia.
60916. No. 1537. Manchuria.
60917. No. 1538. Manchuria.
60918. No. 1549. Altai, Siberia. A local unimproved variety.
60919. No. 1541. Far East, Siberia. A green variety.
60920. No. 1563. Province of Yakutsk, eastern Siberia. A local unimproved variety.
60921. No. 1564. Province of Tyumen. A local unimproved mixed variety.
60922. No. 1624. Province of Samara. *Victoria*.
60923. No. 1629. Turkestan. A local unimproved variety.
60924. No. 1634. Semipalatinsk. A local unimproved variety.
60925. No. 1649. Province of Gomel.
- 60926 to 60935. Voronezh. Experiment station of the Bureau of Applied Botany and Plant Breeding. Selections by Dr. A. I. Malzev.
60926. No. 1751.
60927. No. 1752. *Victoria*. A green variety.
60928. No. 1755. A yellow variety.
60929. No. 1756. An early variety from Rostov.
60930. No. 1758. A pink-seeded variety.
60931. No. 1762. A grainlike variety.
60932. No. 1764. A sugar variety.
60933. No. 1765. A waxen variety.
60934. No. 1768. An umbelliferous variety.
60935. No. 1772. *Victoria*. An angular variety.

60744 to 60956—Continued.

60936. *POA PALUSTRIS* L. Poaceæ.
Fowl meadow grass.
No. 353. Estate "Castle Zagnitz," Livland.
60937. *POA PRATENSIS* L. Poaceæ. Bluegrass.
No. 1070. Province of Petrograd.
60938. *RICINUS COMMUNIS* L. Euphorbiaceæ.
Castor bean.
Nos. 83, 89, 90, 95, 96, 97, 98, 101, 106, 108, 109.
Collection of different strains of the castor bean of
Turkestan origin.
60939. *SESAMUM ORIENTALE* L. Pedaliaceæ.
Sesame.
Nos. 1-13, 16-40. Collection of different varie-
ties of sesame originating in Turkestan.
- 60940 and 60941. *TRIFOLIUM HYBRIDUM* L. Faba-
ceæ. Alsike clover.
60940. No. 1484. Province of Moscow. Beka-
sovskaja Experiment Station.
60941. No. 1758. Province of Tambov.
- 60942 to 60952. *TRIFOLIUM PRATENSE* L. Fabaceæ.
Red clover.
60942. No. 1624. Province of Vologda.

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60943. No. 1639. Province of Viatka.
60944. No. 1650a. Province of Perm, Kungur.
60945. No. 1659. Province of Krasnoufimsk.
60946. No. 1664. Province of Ivanovo Vos-
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60947. No. 1684. Province of Tula.
60948. No. 1685. Province of Orel.
60949. No. 1686. Province of Orel.
60950. No. 1719. Province of Minsk.
60951. No. 2000. Province of Ekaterinburg. A
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60952. No. 2007. Province of Vladimir.
60953. *TRIFOLIUM SUAVEOLENS* Willd. Faba-
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No. 1841. Turkestan.
- 60954 to 60956. *VICIA SATIVA* L. Fabaceæ.
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60954. No. 112. Saratov.
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UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 80



Washington, D. C.

Issued April, 1927

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM JULY 1 TO SEPTEMBER 30, 1924 (S. P. I. NOS. 60957 TO 61737)

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INTRODUCTORY STATEMENT

The outstanding feature of the introductions included in this inventory is the relatively large proportion of forage plants, cereals, and vegetables contributed almost entirely by representatives of the bureau traveling abroad or by foreign agricultural institutions with which the Office of Foreign Plant Introduction has contacts.

H. L. Westover, of the Office of Forage Crops, made a trip to Argentina and Chile with the particular object of studying the culture of alfalfa. Extensive collections of plant material were made in those countries by Mr. Westover, not only of local strains of alfalfa but also of cereals, native grasses, and leguminous forage plants.

H. L. Shantz, of the Office of Plant Geography and Physiology, whose trip to Africa for the African Educational Commission was mentioned in the preceding inventory, continued his travels in that continent during this period, and sent in several more shipments of plant material which included native forage plants, sorghums, and other cereals and a considerable number of shrubby and herbaceous ornamentals.

While carrying on agricultural explorations in Yunnan, southwestern China, for the National Geographic Society, J. F. Rock, a collaborator of this office, made a special collection of native strains of beans and peas (Nos. 61018 to 61038). This collection should prove of special interest to vegetable breeders. A similarly interesting collection of local varieties of beans was received from George H. Winn, of Taiku, Chosen (Nos. 61039 to 61054).

Further shipments of local strains of crop plants were received from Dr. N. I. Vavilov, Director of the Bureau of Applied Botany and Plant Breeding, Leningrad, Russia. These included a series of wheats (*Triticum* spp., Nos. 61101 to 61198), a series of barleys (*Hordeum* spp., Nos. 61506 to 61592), and a small series of cottons (*Gossypium* spp., Nos. 61696 to 61714). Many of these strains originated in parts of Russia where climatic conditions are not favorable for growing crops, so that this material should prove unusually valuable for extending the range in this country of the crops represented. These same observations might also apply to additional shipments of plant material received from Prof. K. Murashinsky, of the Siberian Agricultural Academy, Omsk, Siberia. Grasses and forage plants constitute the greater part of Professor Murashinsky's contributions. For the benefit of forage-crop specialists of the

bureau who are carrying on experiments with small-seeded strains of chick-peas as a stock feed in the Southwest, material was introduced from a number of agricultural institutions in India (*Cicer arietinum*, Nos. 61066 to 61073; 61074 to 61081; 61082 and 61083; 61356 to 61365).

Seeds of a number of rubber-producing plants, introduced for bureau specialists seeking new sources of rubber, were received in a shipment from Alleyne Leechman, director of the Biological and Agricultural Institute at Amani, Tanganyika Territory, Africa. Among these may be mentioned *Castilla elastica* (No. 61483), *Funtumia elastica* (No. 61491), *Landolphia kirkii* and *L. stolzii* (Nos. 61492 and 61493), *Manihot glaziovii* (Nos. 61496 and 61497), and *Mascarenhasia elastica* (No. 61498).

Of especial interest to fruit breeders should be a prune (*Prunus domestica*, No. 60973), very similar to the French prune in character of fruit, which thrives in the latitude of Washington, D. C. Such a tree is growing in the garden of Dr. Aleš Hrdlička in Washington, and bears large crops each fall. The tree came originally from Czechoslovakia.

A new hybrid peach (*Amygdalus persica* × *persica nectarina*, No. 61302) originated at the Plant Introduction Garden, Chico, Calif., by hybridizing with foreign material gives promise of being a good home fruit. The round, light greenish yellow clingstone fruits, 2 inches in diameter, have white, firm, juicy flesh of a pleasing peachy flavor.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND McKEE,

Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., August 19, 1926.

INVENTORY¹

60957. PRUNUS CANESCENS Bois. Amygdalaceæ.

From Loiret, France. Seeds presented by L. Pardé, Directeur des Écoles des Barres, Nogent sur Vernisson. Received September 8, 1924.

A shrubby cherry from Szechwan, China, with attractive, dark orange-brown bark and very hairy leaves and stems. In habit it is rounded and bushy and about 7 feet high. The clustered rosy white flowers are exceedingly fragrant, but fall quickly from the leafless branches. The smooth, red fruits, half an inch in diameter, have a pleasant, acid flavor.

60958. HIBISCUS CANNABINUS L. Malvaceæ. Ambari hemp.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by I. B. Pole Evans, Division of Botany. Received September 8, 1924.

Introduced for testing by fiber specialists.

A prickly-stemmed plant 6 to 8 feet in height, cultivated throughout India and elsewhere in the warmer parts of the world for its fiber, which is used as a substitute for hemp. The fiber is soft, white, and silky and is considered by some authorities to be more durable than jute for coarse textiles.

For previous introduction see S. P. I. No. 55481.

60959. ANDROPOGON SACCHAROIDES Swartz. Poaceæ. Silver beard grass.

From Sucre, Buenos Aires, Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

April 5, 1924. This grass is very abundant west of Buenos Aires; it apparently is not relished by stock except when young. (Westover.)

60960 to 60971.

From Peking, China. Seeds purchased from Rufus H. Lefever, Presbyterian Mission. Received September 12, 1924. Notes by Mr. Lefever.

60960. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Fabaceæ. Adsuki bean.

No. 1. Nay shou do tzu (small black beans). These are boiled soft and sugar added to make a sweet cake.

60961. PHASEOLUS AUREUS Roxb. Fabaceæ. Mung bean.

No. 12. Starch is obtained from this for stiffening clothes and for eating like vermicelli.

60962 and 60963. PISUM SATIVUM L. Fabaceæ. Pea.

60962. No. 7. A local variety.

60963. No. 9. A local variety.

60964 to 60970. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

Local soy-bean varieties.

60964. No. 2.

60965. No. 3. *Nay do.* Fed to animals.

60966. No. 4.

60967. No. 5. *Li lang do.*

60968. No. 6. Sprouted and stewed with meat.

60969. No. 8. Used as flavoring for food.

60970. No. 10. *Huang do* (yellow bean). Used as flavoring for food.

60971. VIGNA SINENSIS (Torner) Savi. Fabaceæ. Cowpea.

No. 11. Stewed and eaten with rice or millet.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction; further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

**60972. ATTALEA COHUNE Mart. Phœni-
caceæ. Cohune.**

From La Providencia, Chiapas, Mexico. Seeds presented by Dr. C. A. Purpus. Received September 15, 1924.

The cohune is a magnificent feather-leaved palm, native to the West Indies and Central America, which reaches a height of 40 feet, with leaves about 20 feet long, produced abundantly at the top of the trunk. The yellowish flowers are borne very freely, and the ovoid fruit, 2 to 3 inches long, contains the seed or nut, which yields an oil of considerable value. According to a statement published in Commerce Reports, May 9, 1919, this oil is of high quality, finds a ready sale for cooking purposes, and is suitable for any use to which a good cooking oil may be applied.

For previous introduction see S. P. I. No. 54017.

**60973. PRUNUS DOMESTICA L. Amyg-
dalaceæ. Prune.**

From Czechoslovakia. Budsticks presented by Dr. Aleš Hrdlička, United States National Museum, Washington, D. C. Received September 15, 1924.

Some years ago Doctor Hrdlička received from Czechoslovakia a shipment of trees and shrubs. These were planted on Tilden Street, Washington, D. C. One of the trees, a prune, has shown such value that Doctor Hrdlička has called it to our attention with the recommendation that it be propagated and given wide distribution in this part of the United States.

This prune, from specimens which we have examined recently, appears very similar to the French prune in character of fruit. The latter does not succeed in the climate of Washington, whereas Doctor Hrdlička's tree bears heavy crops annually, and the fruit seems almost immune to the attacks of curculio and other pests. The ripening season is September and October.

**60974. EUGENIA CURRANII C. B. Robin-
son. Myrtaceæ. Lipoti.**

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, Director, Bureau of Agriculture. Received September 16, 1924.

The lipoti is a handsome Philippine tree which is described in the Philippine Agricultural Review, volume 8, as a vigorous tree about 30 feet high, with a gnarled trunk and tortuous branches, and dark-green, shining leaves. The fruits are in clusters of 20 to 50 on the bare boughs or between the leaves on the larger twigs; the individual fruit is about the size of a grape, with thin, smooth, dark-red skin, and white, dry, crisp flesh with a flavor like that of the crab apple. The seed is comparatively large. The fruit is probably best suited for making preserves and jelly.

For previous introduction see S. P. I. No. 51201.

**60975 to 60982. DOLICHOS LABLAB L.
Fabaceæ. Hyacinth bean.**

From Salisbury, Rhodesia. Seeds presented by H. G. Mundy, Chief Agriculturist, Department of Agriculture, through C. V. Piper, Bureau of Plant Industry. Received September 16, 1924. Notes by Mr. Mundy.

All of these varieties are of the bush type except Maclean's [S. P. I. No. 60978] and McGillivray's [S. P. I. No. 60977].

60975. Gonzudzu. A native variety with rather small, white seeds.

60976. Lablab Stringless. A variety having medium-sized white seeds.

60977. McGillivray's. The khaki-brown seeds are medium sized.

60978. Maclean's. A variety with large, yellowish white seeds.

60979. A variety with purple vines and leaves and dark-purple seeds.

60980. Thurgarton. A variety with large, brown seeds.

60981. An imported, white-seeded variety similar to *Gonzudzu* [S. P. I. No. 60975].

60982. Woodforde's. A variety with small, brown seeds.

**60983. PRUNUS GLANDULOSA Thunb.
Amygdalaceæ.**

From Rochester, N. Y. Budwood presented by William L. G. Edson, in charge of the herbarium, Department of Parks. Received September 19, 1924.

This was grown from seeds originally brought from Manchuria by C. S. Sargent. The shrub, 15 to 20 years old, is about 5 feet high, and the fruit is the size of a large sweet cherry. (*George M. Darrow, Bureau of Plant Industry.*)

This pink-flowered Chinese shrub, often grown as an ornamental, bears abundant fruits, with a fresh acid flavor, which make excellent preserves.

For previous introduction see S. P. I. No. 54028.

**60984. ATTALEA COHUNE Mart. Phœni-
caceæ. Cohune.**

From Summit, Canal Zone. Seeds presented by Holger Johansen, Agronomist, Plant Introduction Garden. Received September 19, 1924.

For previous introduction and description see S. P. I. No. 60972.

**60985 to 60987. COLOCASIA spp. Ara-
ceæ. Taro.**

From Titikaveka, Rarotonga, Cook Islands. Tubers presented by Capt. J. D. Campbell. Received September 17, 1924.

Three varieties of taro introduced for cultural tests and comparison with taros now grown in the Gulf States.

60985. Taro kerekere.

60986. Taro simoa.

60987. Mixed varieties.

60988. SALACIA sp. Hippocrateaceæ.

From Akkra, Gold Coast Colony, Africa. Seeds presented by W. S. D. Tudhope, Director, Agricultural Department. Received September 23, 1924.

The roots and stems of this shrub, known to the natives of the Gold Coast Colony as "tetso," are said to contain a rubberlike substance, according to the Bulletin of the Imperial Institute, London, for 1912. The plant has been introduced for testing by rubber specialists.

60989. ZEA MAYS L. Poaceæ. Corn.

From Guasave, Sinaloa, Mexico. Seeds presented by F. W. Smith. Received September 15, 1924.

A variety of red sweet corn, introduced for testing by corn specialists.

60990 to 60999. TRITICUM spp. Poaceæ. Wheat.

From Maison-Carree, Algeria. Seeds presented by the governor general, Institute of Agriculture. Received May 21, 1924.

60990 to 60998. TRITICUM AESTIVUM L. (T. vulgare Vill.). Common wheat.

60990. No. 14. *Yahia*.

60991. No. 221. *Jidi Mansour*.

60992. No. 24. *Bahmond*.

60993. No. 36. *Mastaf*.

60994. No. 53. *Cafertast*.

60995. No. 59. *Hamra de Deldoul*.

60996. No. 62. *Chatar*.

60997. No. 69. *Heha*.

60998. No. 73. *Hamra barbu*.

60999. TRITICUM TURGIDUM L. Poulard wheat.

No. 57. *Ouin Rakba*.

61000. ULMUS PUMILA L. Ulmaceæ. Chinese elm.

From Nanking, China. Seeds purchased from Dr. J. H. Reisner, College of Agriculture, University of Nanking. Received July 11, 1924.

The Chinese elm, originally introduced some years ago, is proving a valuable acquisition to the semiarid regions of this country because of its resistance to alkali, drought, and extremes of temperature. As a windbreak and ornamental shade tree it has become popular in regions where other shade trees do not thrive.

61001. COTONEASTER SALICIFOLIA RUGOSA (E. Pritz.) Rehd. and Wils. Malaceæ.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, Director, Royal Botanic Gardens. Received November 10, 1923. Numbered July, 1924.

A very handsome Chinese shrub with long pendulous branches and wrinkled, narrow leaves with the lower surfaces covered with down. The small, scarlet berries contrast very effectively with the autumnal tints of the foliage.

61002 and 61003.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

61002. ANNESLIA sp. (Calliandra sp.). Mimosaceæ.

March 31, 1924. Found on dry gravelly mesas near Paso de los Andes, Mendoza. (Westover.)

61003. BOUTELOUA MEGAPOTAMICA (Spreng.) Kuntze. Poaceæ. Grass.

Sucré, Buenos Aires. April 5, 1924. Rare in this region. (Westover.)

61004 and 61005.

From Chile. Collected by H. L. Westover, Bureau of Plant Industry. Received July 2, 1924.

61004. MALUS SYLVESTRIS Mill. (Pyrus malus L.). Malaceæ. Apple.

Santiago. June 11, 1924. Scions of a variety supplied by Señor Comacho, at the Quinta Normal; said to be very resistant to the woolly aphid. The moderately large fruit is yellow and of fair quality. (Westover.)

61005. PASPALUM sp. Poaceæ. Grass.

June 11, 1924. Seeds collected near Alto del Carmen, Huasco Valley. (Westover.)

61006 to 61008. PHASEOLUS spp. Fabaceæ.

From Tucuman, Argentina. Seeds presented by Dr. W. E. Cross, experiment station, Tucuman, through C. V. Piper, Bureau of Plant Industry. Received July 9, 1924.

Introduced for testing by forage-crop specialists.

61006. PHASEOLUS CARACALLA L. Bertoni bean.

No. 169. May 11, 1924. Collected at Yerba Buena. (Cross.)

For previous introduction see S. P. I. No. 41882.

61007 and 61008. PHASEOLUS SEMIERECTUS L.

Introduced for trial as a forage and as a cover crop.

61007. No. 1765. 61008. No. 1784.

61009. POLYGALA BUTYRACEA Heckel. Polygalaceæ.

From Paris, France. Seeds presented by M. Aug. Chevalier, Museum of Natural History. Received July 3, 1924.

Some of the more primitive tribes of West Africa have cultivated this species, probably since ancient times, for food. It is an annual plant about 7 feet high, with hairy leaves, large yellowish flowers, and black, cylindrical seeds nearly a quarter of an inch long. It is for the sake of these seeds, which are oleaginous and very nutritious, that the plant is grown. Although the yield is not great, this is compensated for by the high food value of the seeds. The cultivation of the plant simply for the oil contained in these seeds would not, however, be profitable. (Chevalier.)

61010. FICUS sp. Moraceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received July 2, 1924.

Tibig, as this undetermined species of Ficus is known here, is the best fruit I have tasted in this genus next to the cultivated fig. It does not, of course, compare with the fig, but is worth trying where figs can not be grown for climatic reasons, and also for crossing with the fig to obtain varieties for tropical climates too trying for the fig.

The tree is upright and of medium size. The fruits are produced in short racemes on the trunk from the ground up and on the stout branches, and are about 1½ inches in diameter, fleshy and juicy, very

sweet for a wild fruit, with the characteristic flavor of the cultivated fig.

Though the tibig has fruited in Manila, the tree does best in a fairly moist climate with the rainfall equally distributed throughout the year. It is probably very tender. (Wester.)

61011 to 61014. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). Fabaceae.
Soy bean.

From Changli, Chihli, China. Seeds presented by C. F. Chou, Methodist Episcopal Mission. Received July 8, 1924.

These are planted in April, ripening in August. They grow best on black or yellow clay soil, with good drainage. (Chou.)

Introduced for testing by agronomists engaged in soy-bean experiments.

61011. *Ch'ing Pi Gat* (green bean).

61012. *Er* (yellow bean).

61013. *Kwan Tung* (small bean).

61014. *Ta Bi Mei*.

61015 to 61017. LANDOLPHIA spp. Apocynaceae.

From Zomba, Nyasaland Protectorate, Africa. Seeds presented by E. J. Wortley, Director of Agriculture. Received July 2, 1924.

Several species of *Landolphia* contain more or less rubber in the latex, and these listed below are introduced for testing by rubber specialists.

61015. *LANDOLPHIA PARVIFOLIA* Schum.

This is described by Otto Stapf (Thiesson-Dyer, *Flora of Tropical Africa*) as a much-branched, climbing shrub, with small, oblong leaves and small, pale-yellow or white flowers in small, dense clusters. The greenish purple fruits, about 2 inches in diameter, have a smooth, thick rind.

61016. *LANDOLPHIA* sp.

61017. *LANDOLPHIA* sp.

61018 to 61038.

From Honolulu, Hawaii. Seeds sent in by Dr. H. L. Lyon, in charge, department of botany and forestry, experiment station of the Sugar-Planters' Association. Received July 3, 1924. Notes by J. F. Rock.

A collection of bean varieties collected in Yunnan by J. F. Rock, National Geographic Society, Washington, D. C. These may prove of value for bean specialists for breeding and cultural experiments.

61018 to 61020. *DOLICHOS LABLAB* L.
Fabaceae. Hyacinth bean.

61018. No. 3. Tsuchu district. *Hwei Pen* bean.

61019. No. 1. Yuanmao district. *Hung Pin* bean (red thin bean).

61020. No. 2. Monhua district. *Pai Pin* bean (white thin bean).

61021 to 61033. *PHASEOLUS* spp. Fabaceae.

61021 to 61023. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. *Adsuki* bean.

61021. No. 6. Chaofung district. *Lui* bean (common bean).

61018 to 61038—Continued.

61022. No. 8. Chinying district. *Hung Fan* bean (red rice bean).

61023. No. 17. Chaofung district. *Pai Fan* bean (white rice bean).

61024. *PHASEOLUS AUREUS* Roxb.
Mung bean.

No. 7. Penchuan district. *Si Lue* bean (light-green bean).

61025 and 61026. *PHASEOLUS COCCINEUS* L.
Scarlet Runner bean.

61025. No. 14-A. Chengkuan district.

61026. No. 9. Kuanming district. *Hung Hau Tsai* bean.

61027. *PHASEOLUS LUNATUS* L.
Lima bean.

No. 13. Erhyuan district. *Hung Pao* bean (red-package bean).

61028 to 61033. *PHASEOLUS VULGARIS* L.
Common bean.

61028. No. 18. Chinying district. *Hua* bean (flower bean).

61029. No. 15. Chaofung district. *Sui Chi* bean (four-season bean).

61030. No. 14-B. Chengkuan district.

61031. No. 10. Hingping district. *Ta Pai* bean (large white bean).

61032. No. 20. Fengyi district. Small white bean.

61033. No. 16. Taoon district. *Wu Chin* bean.

61034. *PISUM SATIVUM* L. Fabaceae. Pea.
No. 12. Fengyi district. *Wan* bean.

61035 to 61037. *SOJA MAX* (L.) Piper
(*Glycine hispida* Maxim.). Fabaceae.
Soy bean.

61035. No. 5. Hsinping district. *Ta Lu* bean (large green bean).

61036. No. 4. Fumin district. *Sung Tzu* bean (pine seed bean).

61037. No. 19. Chiacha district. *Hwang* bean (yellow bean).

61038. *VICIA FABA* L. Fabaceae.
Broad bean.

No. 11. Fumin district. *Tan* bean (egg bean).

61039 to 61056.

From Taiku, Chosen, Japan. Seeds presented by George H. Winn. Received July 2, 1924.

Introduced for specialists engaged in experimenting with various types of beans.

61039 to 61044. *PHASEOLUS* spp. Fabaceae.

61039 to 61041. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. *Adsuki* bean.

61039. No. 1. Ordinary red "pat."

61040. No. 2. White "pat."

61041. No. 7. Fifty-day gray "pat."

61042. *PHASEOLUS AUREUS* Roxb.
Mung bean.

No. 4. Very small green "pat."

61039 to 61056—Continued.

61043. *PHASEOLUS CALCARATUS* Roxb.
Rice bean.

No. 5. Very small red "pat."

61044. *PHASEOLUS VULGARIS* L.
Common bean.

No. 7. Red soy.

61045 to 61054. *SOJA MAX* (L.) Piper
(*Glycine hispida* Maxim.). Fabaceæ.
Soy bean.

61045. No. 10. Black.

61046. No. 11. Brown.

61047. No. 8. Green.

61048. No. 3. Larger green.

61049. No. 2. Ordinary white.

61050. No. 9. Small black.

61051. No. 4. Small gray.

61052. No. 5. Striped brown.

61053. No. 6. Very small white.

61054. No. 1. White (largest variety).

61055. *VIGNA CYLINDRICA* (Stickm.)
Skeels. Fabaceæ. Catjang.

No. 3. Small black "pat."

61056. *VIGNA SINENSIS* (Torner) Savi.
Fabaceæ. Cowpea.

No. 6. Mottled red "pat."

61057 to 61060.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received July 1, 1924.

61057. *ELAEOCARPUS CYANEUS* Ait. Elæocarpaceæ.

As an ornamental tree for tropical and subtropical regions this Australian species shows considerable promise. In its native habitat it sometimes grows 60 feet high, with narrow, acuminate, prominently veined leaves, and cream-colored, fringed flowers in loose clusters a little shorter than the leaves. The fruits are globular, blue drupes.

For previous introduction see S. P. I. No. 45789.

61058. *HYMENOSPORUM FLAVUM* (Hook.)
F. Muell. Pittosporaceæ.

An ornamental evergreen shrub or tree, sometimes becoming 50 feet high, from Australia. The leaves are up to 9 inches long, and the fragrant flowers, yellow marked with red at the throat, are over an inch across. Its symmetrical pyramidal habit and rapid growth make it promising as a street tree for the Gulf States and California.

61059. *INDIGOFERA AUSTRALIS* Willd. Fabaceæ. Indigo.

An interesting shrubby indigo, native to Australia, and probably suitable for growing as an ornamental in the warmer parts of the United States. It is an erect, branching plant 2 to 4 feet high, with very attractive foliage and dense or loose clusters of showy red flowers.

For previous introduction see S. P. I. No. 56575.

61057 to 61060—Continued.

61060. *LEPTOSPERMUM SCOPARIUM* Forst.
Myrtaceæ. Manuka.

This evergreen shrub is one of the most abundant in New Zealand; it is of compact, bushy habit, sometimes becoming 30 feet high. The leaves are hard, leathery, and sharp pointed, and the white or pink flowers, borne in great profusion, are about three-fourths of an inch across. When this shrub is in bloom the entire region appears as if covered with snow. The leaves are very aromatic, for which reason they have sometimes been used for making tea.

For previous introduction see S. P. I. No. 44849.

61061 and 61062. *TRIFOLIUM PRATENSE*
L. Fabaceæ. Red clover.

From Copenhagen, Denmark. Seeds collected by G. C. Edler, United States Department of Agriculture. Received July 8, 1924.

Local red-clover strains introduced for testing by agronomists.

61061. G. C. E. No. 12.

61062. G. C. E. No. 13.

61063. *CASTANOPSIS* sp. Fagaceæ.
Chestnut.

From Palembang, Sumatra. Seeds presented by the Government Botanic Garden. Received July 15, 1924.

Tree No. 148-E. Collected April 20, 1924, at Palembang, Sumatra.

This species is of the 2-seeded to 3-seeded type and thus presumably one with edible nuts, since the other three species which I know from this region with more than one seed in a bur are edible. The nuts resemble somewhat those of *Castanopsis sumatrana*, but are of some other species, and very different from any the department is now growing. (Carl Hartley, Bureau of Plant Industry.)

61064. *PARKIA TIMORIANA* (DC.) Merr.
(*P. roxburghii* G. Don). Mimosaceæ. Cupang.

From Manila, Philippine Islands. Seeds presented by Don D. Strong, Acting Director, Bureau of Agriculture, at the request of P. J. Wester. Received July 11, 1924.

A huge and remarkably handsome, quick-growing tree, attaining a height of 120 feet or more, with a clear, smooth trunk, and beautiful, fine-feathery, pinnate leaves. Native to Malaya, Burma, etc. It has been introduced into and become well established in Ceylon, thriving in the moist low country up to 2,000 feet. The long pods, which grow in clusters, contain a quantity of white, powdery, farinaceous substance. The tree is easily propagated by seed.

61065. *RUBUS MACROCARPUS* Benth.
Rosaceæ. Colombian blackberry.

From Bogota, Colombia. Seeds presented by F. L. Rockwood. Received July 17, 1924.

To be grown for plant breeders experimenting with small fruits.

These came from the best-looking fruits I have ever seen in the Bogota market. The original source was a barranca near Facatativa, in a place sheltered from the wind. They were from $1\frac{1}{8}$ to $1\frac{1}{2}$ inches long, rather triangular, and of fine appearance. (*Rockwood.*)

61066 to 61073. Cicer arietinum L.
Fabaceae. Chick-pea.

From Pusa, Bihar, India. Seeds purchased from Asjan Singh, imperial agriculturist, Agricultural Research Institute. Received July 7, 1924.

Small-seeded strains introduced for trial as stock feed in the southwestern United States.

61066. *Gram Pusa 6.*

61067. *Gram Pusa 11.*

61068. *Gram Pusa 23.*

61069. *Pusa Farm selection 3.*

61070. *Pusa Farm selection 11.*

61071. *Pusa Farm selection 15.*

61072. *Pusa Farm selection 16.*

61073. *Pusa Farm selection 17.*

61074 to 61081. Cicer arietinum L.
Fabaceae. Chick-pea.

From the Central Provinces of Nagpur, India. Seeds presented by J. F. Dastur, Department of Agriculture. Received July 18, 1924.

Introduced for forage-crop specialists experimenting with small-seeded strains of chick-peas.

61074. *Black gram 11-B.*

61075. *D-8.*

61076. *Dark brown gram (farm).*

61077. *Malida gram.*

61078. *Parbatiya gram.*

61079. *Parbatiya No. 2 (11-B).*

61080. *Yellow gram.*

61081. *Yellow No. 39 (11-B).*

61082 and 61083. Cicer arietinum L.
Fabaceae. Chick-pea.

From Burma, India. Seeds presented by L. Lord, Deputy Director of Agriculture, Northern Circle, Mandalay. Received July 9, 1924.

Introduced for trial as stock feed in the southwestern United States.

61082. *Burmese.* 61083. *Karachi.*

61084. Persea americana Mill. (P. grisea Gaertn. f.). Lauraceae.

Avocado.

From Honolulu, Hawaii. Budwood presented by Gerrit P. Wilder. Received July 24, 1924.

Wilder. The seed of the original tree of the Wilder was obtained by Gerrit P. Wilder from F. W. McFarlane, who lived on the Wiedemann place, now known as the Macdonald Hotel. Mr. Wilder planted the small seedling tree in his private garden at 1930 Ualakaa Street, Makiki, Honolulu, in 1900. Although the tree grew vigorously for eight years and bore fruit abundantly, it gradually began to show signs of unsatisfactory soil conditions, and new trees

were propagated from it by inarching on seedling rootstocks. The variety was maintained through inarching the progeny, from which there has been developed a large number of individuals. When grown in proper environment the Wilder is a vigorous tree of rather upright growth and produces an abundance of fruit of excellent quality. The variety is easily propagated by budding. The fruit ripens during October, November, December, and January.

Fruit: Form, almost spherical or slightly elongated; color, olive green; rind, surface slightly undulated, so thick as to be shell-like; weight, $1\frac{1}{4}$ pounds; flesh, yellow, tinged to green next to the rind, nutty in flavor, and free from fiber; seed, larger than the ideal, tight in the cavity, covered with skin, but a perfect freestone. Keeping qualities of the fruit are very good. (*The Guatemalan Avocado in Hawaii, Hawaii Bull. 51, p. 20.*)

61085 and 61086.

From Nigeria, Africa. Seeds presented by the senior conservator of forests, Oloke-meji, Southern Provinces. Received July 14, 1925.

61085. Carpodinus hirsuta Hua. Apocynaceae.

A common vine in the dry zone of West Africa; according to Holland (*Useful Plants of Nigeria*) it yields a rubber of inferior quality, known as "flake rubber" or "paste rubber," and the latex is commonly used to adulterate that of *Funtumia elastica*. It is one of the so-called "root-rubbers." Introduced for department rubber specialists.

61086. Funtumia elastica (Preuss)
Stapf. Apocynaceae. Lagos rubber tree.

A large forest tree which is very widely distributed throughout central Africa and is the source of Lagos rubber, which is of excellent quality. It is being introduced with a view to including it in the collection of rubber plants now being brought together in southern Florida for investigational purposes.

For previous introduction see S. P. I. No. 58963.

61087. Saccharum officinarum L.
Poaceae. Sugar cane.

From Honolulu, Hawaii. Cuttings presented by Atherton Lee, experiment station of the Hawaiian Sugar-Planters' Association. Received July 10, 1924.

Cuttings of *Striped Tip* sugar cane, introduced for pathologists investigating sugar-cane diseases.

61088 to 61099.

From Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received July 3, 1924. Notes by Doctor Shantz.

61088 and 61089. *Voi Taviti.* March 31, 1924. Collected from rather dry grassland.

61088. Chloris sp. Poaceae. Grass.
No. 186.

61089. Cynodon plectostachys (Schum.) Pilg. Poaceae. Grass.

No. 186b. A low, perennial grass with creeping stolons and short blades and upright flowering stems.

1038 to 61099—Continued.

61090. DIOSCOREA LATIFOLIA Benth.
Dioscoreaceae. Acom.

No. 190. Moshi. April 2, 1924. An important element in the natives' diet; grown alone on poles or allowed to cover banana plants.

61091. ERAGROSTIS sp. Poaceae. Grass.

No. 196. M'Kambara, Tanganyika Territory. April 3, 1924. A small grass grown as a semiruderal along the track.

61092. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.). Poaceae. Grass sorghum.

No. 186a. Karogive, Tanganyika Territory, April 3, 1924. A wild sorghum.

61093. LATIPES SENEGALENSIS Kunth.
Poaceae. Grass.

No. 186c. Voi Taviti. March 31, 1924. Collected from dry grasslands.

61094 to 61097. PHASEOLUS VULGARIS L.
Fabaceae. Common bean.

Moshi. April 2, 1924.

61094. No. 192. Type grown at Moshame, slopes of Mount Kilimanjaro.

61095. No. 193. Recently introduced at Moshame.

61096. No. 194. Red beans; introduced at Moshame.

61097. No. 195. White beans; introduced at Moshame.

61098. SECALE CEREALE L. Poaceae. Rye.

No. 189. Moshi. April 2, 1924. Grown on slopes of Mount Kilimanjaro, at Moshame; altitude about 5,000 feet.

61099. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 188. Moshi. April 2, 1924. Grown at Moshame, but not extensively. Does fairly well.

61100. STIZOLOBIUM sp. Fabaceae.
Velvet bean.

From Wembley, England. Seeds secured by C. V. Piper, Bureau of Plant Industry. Received July 26, 1924.

Seeds gray, marbled with black; secured from the Nyasaland exhibit, June, 1924. (Piper.)

61101 to 61198. TRITICUM spp. Poaceae.

From Leningrad, Russia. Seeds presented by Prof. N. I. Vavilov, Director of the Bureau of Applied Botany and Plant Breeding. Received June 19, 1924. Notes by Professor Vavilov.

61101 to 61103. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Common wheat.

61101. No. 4. Province of Voronezh. Rusak.

61102. No. 7106. Georgia, Caucasus. Var. *fuliginosum*. Persian wheat.

61103. No. 10685. Schougnan. Var. *Roschanum*.

61104 to 61198. TRITICUM DURUM Desf.
Durum wheat.

61104. No. 1931. Province of Kuban. Var. *Reichenbachi*.

61101 to 61198—Continued.

61105. No. 6914. Province of Fergan, Turkestan. Var. *affine*.

61106. No. 6924. Province of Don. Var. *Reichenbachi*.

61107. No. 6931. Fergan, Turkestan. Var. *Reichenbachi*.

61108. No. 6951. Transcaspiian Territory. Var. *Lidicum*.

61109. No. 7037. Province of Samara. Var. *Reichenbachi*. From the experiment station of Krasny-Kut.

61110. No. 6966. Province of Samara. Var. *africanum*.

61111 to 61121. Var. *coerulescens*.

61111. No. 999. Georgia, Province of Tiflis, Caucasus.

61112. No. 1351. Semipalatinsk, Siberia.

61113. No. 6841. Province of Saratov.

61114. No. 6944. Persia.

61115. No. 6845. Province of Samara. From the experiment station of Krasny-Kut.

61116. No. 6853. Province of Saratov.

61117. No. 6858. Province of Samara. From the experiment station of Krasny-Kut.

61118. No. 6861. Province of Samara. From the experiment station of Krasny-Kut.

61119. No. 6862. Province of Samara. From the experiment station of Krasny-Kut.

61120. No. 6863. Province of Samara. From the experiment station of Krasny-Kut.

61121. No. 6892. Province of Orenburg.

61122 to 61183. Var. *hordeiforme*.

61122. No. 5. Province of Voronezh. Kubanka.

61123. No. 145. Semipalatinsk, Siberia.

61124. No. 254. Province of Tomsk, Siberia.

61125. No. 255. Province of Tomsk, Siberia.

61126. No. 6598. Province of Samara. From the experiment station of Krasny-Kut.

61127. No. 6601. Semiryechensk. *Beleturka*.

61128. No. 6602. Province of Yeniseisk, Siberia.

61129. No. 6604. Province of Saratov.

61130. No. 6606. Province of Samara. From the experiment station of Krasny-Kut.

61131. No. 6607. Province of Samara. From the experiment station of Krasny-Kut.

61132. No. 6613. Province of Samara. From the experiment station of Krasny-Kut.

61101 to 61198—Continued.

61133. No. 6616. Province of Samara. *Kubanka*. From the experiment station of Krasny-Kut.
61134. No. 6617. Province of Samara. From the experiment station of Krasny-Kut.
61135. No. 6619. Province of Don. *Kubanka*.
61136. No. 6620. Province of Voronezh.
61137. No. 6623. Turgaisk Province, Central Asia.
61138. No. 6625. Province of Poltava.
61139. No. 6627. Province of Samara.
61140. No. 6630. Province of Samara. From the experiment station of Krasny-Kut.
61141. No. 6632. Province of Fergan, Turkestan.
61142. No. 6634. Province of Samara. From the experiment station of Krasny-Kut.
61143. No. 6636. Province of Samara.
61144. No. 6640. Province of Samara. From the experiment station of Krasny-Kut.
61145. No. 6641. Province of Orenburg. *Beloturka*.
61146. No. 6644. Province of Samara.
61147. No. 6646. Province of Samara.
61148. No. 6648. Province of Saratov.
61149. No. 6649. Province of Tomsk, Siberia. *Kubanka*.
61150. No. 6651. Province of Syrdaria, Turkestan.
61151. No. 6653. Province of Samara. From the experiment station of Krasny-Kut.
61152. No. 6654. Province of Samara.
61153. No. 6655. Province of Saratov.
61154. No. 6662. Persia.
61155. No. 6672. Province of Saratov.
61156. No. 6673. Province of Samara.
61157. No. 6675. Province of Samara. *Beloturka*. From the experiment station of Krasny-Kut.
61158. No. 6676. Province of Samara. From the experiment station of Krasny-Kut.
61159. No. 6677. Province of Samara. From the experiment station of Krasny-Kut.
61160. No. 6683. Province of Saratov. *Beloturka*.
61161. No. 6685. Province of Fergan, Turkestan. *Kubanka*.
61162. No. 6686. Province of Fergan, District of Zaisan, Turkestan. *Kubanka*.
61163. No. 6687. Province of Saratov. *Beloturka*.

61101 to 61198—Continued.

61164. No. 6693. Nicol'sk-Ussurijsk.
61165. No. 6696. Nicol'sk-Ussurijsk.
61166. No. 6697. Transcasian Territory.
61167. No. 6698. Turkestan.
61168. No. 6708. Province of Podolia.
61169. No. 6711. Province of Samara.
61170. No. 6719. Province of Tomsk, Siberia.
61171. No. 6727. Province of Saratov.
61172. No. 6730. Province of Samara, Nicolaev.
61173. No. 6733. Province of Samara, Busuluk.
61174. No. 6761. Province of Samara.
61175. No. 6978. Province of Samara. From the experiment station of Krasny-Kut.
61176. No. 6979. Province of Samara. From the experiment station of Krasny-Kut.
61177. No. 6984. Transcasian Territory.
61178. No. 6988. Province of Saratov.
61179. No. 6990. Province of Voronezh.
61180. No. 6992. Province of Samara. From the experiment station of Krasny-Kut.
61181. No. 6995. Province of Samara. From the experiment station of Krasny-Kut.
61182. No. 6999. Province of Saratov.
61183. No. 7058. Province of Samara. From the experiment station of Krasny-Kut.
- 61184 to 61195. Var. *melanopus*.
61184. No. 490. Province of Don.
61185. No. 807. Bessarabia.
61186. No. 836. Province of Don.
61187. No. 6720. Province of Tomsk, Siberia. *Serouska*.
61188. No. 6772. Province of Tomsk, Siberia.
61189. No. 6777. Province of Eniseisk, Siberia.
61190. No. 6784. Province of Samara. From the experiment station of Krasny-Kut.
61191. No. 6790. Province of Samara. From the experiment station of Krasny-Kut.
61192. No. 6797. Province of Samara. From the experiment station of Krasny-Kut.
61193. No. 6821. Turkestan.
61194. No. 6831. Province of Samara, District of Novousensk.
61195. No. 7013. Province of Samara, District of Novousensk.

61101 to 61198—Continued.

61196 to 61198. Var. *murciense*.

61196. No. 6897. Province of Samara. From the experiment station of Krasny-Kut.

61197. No. 6901. Province of Samara. From the experiment station of Krasny-Kut.

61198. No. 6905. Province of Fergan, Turkestan.

61199. *MEDICAGO SATIVA* L. Fabaceae.
Alfalfa.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

April 19, 1924. Procured from the highest point reached by the Trans-Andean Railroad, at an altitude of about 10,000 feet. (Westover.)

61200. *CITRUS MEDICA* L. Rutaceae.
Citron.

From the island of Corsica. Cuttings received August 1, 1924.

For testing by horticulturists engaged in citrus-breeding experiments.

61201 to 61223.

From the Union of South Africa. Collected by H. L. Shantz, Bureau of Plant Industry. Received July and August, 1924. Notes by Doctor Shantz.

61201. *MARANTA ARUNDINACEA* L. Araceae.
Bermuda arrowroot.

No. 292. Livingstonia, Nyasaland. April 30, 1924. Arrowroot grown by the natives on the highlands above Nyasa.

61202. *DISA* sp. Orchidaceae.

No. 289. Livingstonia, Nyasaland, April 29, 1924. A beautiful blue terrestrial orchid, growing abundantly in mountain grassland west of Nyasa and said to be one of the most beautiful flowers here.

61203. *ORNITHOGALUM* sp. Liliaceae.

No. 453. Deedorns, Cape Province. June 16, 1924. Lilylike bulbs from the desert at the edge of the karoo.

61204. (Undetermined.)

No. 446. Deedorns, Cape Province. June 16, 1924. A handsome lilylike plant with yellow-tipped, red flowers. Not only is the flower of this plant attractive but the foliage is also somewhat variegated.

61205. *COTYLEDON* sp. Crassulaceae.

No. 444. Deedorns, Cape Province. June 16, 1924. This forms a fleshy, tree-like plant, reaching a height of 6 feet or more. It is leafless during the dry period, but the whole plant stem usually remains soft and green. At the beginning of growth it develops a bulbous stem which reminds one of true bulbous plants.

61206. (Undetermined.)

No. 445. Deedorns, Cape Province. June 16, 1924. Bulbs of a liliaceous plant about 6 inches in diameter, which usually is very abundant throughout this section. The plant has a curious habit of forming a new bulblet at the base of each of the leaves when the old bulb dies. It is produced in great abundance at the edge of the karoo.

61201 to 61223—Continued.

61207. (Undetermined.)

Same as No. 445 [S. P. I. No. 61206], but has small bulblets.

61208. (Undetermined.)

No. 446a. Deedorns, Cape Province. June 16, 1924. A lilylike plant with attractive, yellow-tipped, red flowers.

61209. *BABIANA* sp. Iridaceae.

No. 447. Deedorns, Cape Province. June 16, 1924. A very attractive iridaceous plant growing over a large portion of South Africa.

61210. (Undetermined.)

No. 448. Deedorns, Cape Province. June 16, 1924. A bulbous plant similar in general character to *Massonia*.

61211. (Undetermined.)

No. 449. Deedorns, Cape Province. June 16, 1924. A bulbous plant similar in general character to *Massonia*.

61212. (Undetermined.)

No. 452. Deedorns, Cape Province. June 16, 1924. A small liliaceous plant.

61213. *BUPHANE DISTICHA* (L. f.) Herbert.
Amaryllidaceae.

No. 459. Cape Town, Cape Province. June 22, 1924. A plant, typically South African, with a very large bulb and stems a foot in diameter. It contains a very powerful toxic alkaloid called hemanthine, and was one of the sources of arrow poison used by the bushmen. The bulb sends up a large head of small flowers.

61214. *COTYLEDON* sp. Crassulaceae.

No. 444a. Deedorns, Cape Province. June 16, 1924. This is a fleshy, tree-like plant, reaching a height of 6 feet or more. It is leafless during the dry period, but the whole plant stem usually remains soft and green. At the beginning of growth it develops a thickened stem which reminds one of true bulbous plants.

61215. *GLADIOLUS* sp. Iridaceae.

No. 287. Livingstonia, Nyasaland. April 29, 1924. A fine, large type, probably yellow flowered.

61216. *GLADIOLUS* sp. Iridaceae.

No. 288. April 29, 1924. From the west escarpment above Nyasa near Livingstonia. A beautiful, small, pink, frail gladiolus; flowers few but large.

61217. *BULBINE* sp. Liliaceae.

No. 286. Livingstonia, Nyasaland. April 29, 1924. A fine, tall, wild type, with deep-blue to purple flowers; abundant throughout the grassland.

61218. (Undetermined.)

No. 290. Livingstonia, Nyasaland. Said to have very attractive flowers. These lilies grow in a heavy clay (lateritic) soil in a region where drought occurs but is not very severe.

61219. (Undetermined.)

No. 455. Deedorns, Cape Province. June 16, 1924. From the karoo.

61201 to 61223—Continued.

61220. (Undetermined.)

No. 450. Deedorns, Cape Province. June 16, 1924. A curious tuberous plant.

61221. (Undetermined.)

No. 454. Deedorns, Cape Province. June 16, 1924. A fleshy leaved bulbous plant from the desert and the edge of the karoo.

61222. (Undetermined.)

No. 451. Deedorns, Cape Province. June 16, 1924. A plant with a small green spike.

61223. COTYLEDON sp. Crassulaceæ.

No. 444b. Deedorns, Cape Province. June 16, 1924. This is a fleshy, treelike plant, reaching a height of 6 feet or more. It is leafless during the dry period, but the whole plant stem usually remains soft and green. At the beginning of the wet season it develops a thickened stem which reminds one of the true bulbous plants.

61224. PRUNUS SPINOSA × DOMESTICA. Amygdalaceæ. Hybrid plum.

From Koslov, Tambov Government, Russia. A form developed at the Plant Introduction Garden, Chico, Calif., from one of the original 14 cuttings received in 1911 from I. V. Mijurin, Koslov, through Frank N. Meyer, agricultural explorer. Numbered July, 1924.

Fruit $1\frac{1}{2}$ to $1\frac{3}{4}$ inches in diameter; pale yellow mottled with brownish, irregular blotches; cavity small, shallow; suture more or less prominent; skin thick; flesh yellow, melting, very juicy and deliciously sweet; pit small, practically free.

61225 to 61229. CORCHORUS spp. Tiliaceæ. Jute.

From Dacca, eastern Bengal, India. Seeds presented by R. S. Finlow, fiber expert to the Government of Bengal. Received July 30, 1924.

Native varieties of jute introduced for fiber-plant specialists. The quoted notes are from the Bengal Agricultural Journal, vol. 2, no. 1, 1922.

61225. CORCHORUS OLITORIUS L.

"Chinsura Green, a selected type of Bogey jute which was raised by the fiber expert to the Government of Bengal and has given exceptionally heavy yields in western Bengal." (P. 7.)

For previous introduction see S. P. I. No. 55973.

61226 to 61229. CORCHORUS CAPSULARIS L.

For previous introduction see S. P. I. No. 45809.

61226. *Kalir Char*. Locally grown seeds, Khulua, Bengal.

61227. *Kaya Bombai* (mixed with *Kalir Char*).

61228. "R. 85. An eastern Bengal jute with the reputation of being a heavy yielder. It was selected by the fiber expert from the Kakai Bombai strain and is resistant to the disease known as 'chlorosis,' which causes yellowing of the leaves." (P. 7.)

61229. *D. 154*.

61230. JASMINUM SAMBAC (L.) Ait. Oleaceæ. Arabian jasmine.

From Nogent sur Marne, Seine, France. Plant presented by the director, Colonial Garden. Received August 8, 1924.

Arabian jasmine is cultivated in India for the sake of the oil, used in perfumery, which is obtained from the fragrant flowers. It is now introduced for the use of specialists investigating oil plants which yield perfume.

61231 to 61234.

From South America. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61231. BROMUS UNIOLOIDES (Willd.) H. B. K. Poaceæ. Rescue grass.

April 5, 1924. Collected near Sucre, Buenos Aires, Argentina. Locally known as Australian brome or cebadilla. Highly prized as winter pasture grass.

61232. GALEGA OFFICINALIS L. Fabaceæ. Goat's-rue.

Collected near Hospital, O'Higgins Province, Chile. This plant makes a very vigorous growth during the summer months and might be of some value in sections of this country where a summer green-manuring crop is desired.

61233. GOSSYPIMUM sp. Malvaceæ. Cotton.

June 1, 1924. Collected from a large plant growing along the ditch bank several miles above Alto del Carmen, Chile.

61234. HORDEUM DISTICHON PALMELLA Harlan. Poaceæ. Two-rowed barley.

May 2, 1924. Hacienda Eltambo, Mal-lao, Chile.

61235 to 61237. COIX LACRYMA-JOBI MA-YUEN (Rom.) Stapf. Poaceæ.

Adlay.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, Director, Bureau of Agriculture, at the request of P. J. Wester, Bureau of Agriculture. Received September 17, 1924.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to Mr. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

61235. *Bontac*. 61237. *Davao*.61236. *La Union Red*.

61238 to 61242.

From Buitenzorg, Java. Plants presented by Dr. C. J. J. Van Hall, Department of Agriculture, Buitenzorg, through Carl Hartley, Bureau of Plant Industry. Received July 18, 1924.

61238. CASTANOPSIS ARGENTEA (Blume) A. DC. Fagaceæ.

No. 2. An evergreen East Indian chestnut 50 to 60 feet high, with thin, narrow leaves about 7 inches long and dense clusters of spiny burs; each bur is about 2 inches wide and usually contains a single nut an inch in diameter. According to Doctor Hartley, these nuts are edible.

For previous introduction see S. P. I. No. 57732.

61238 to 61242—Continued.

61239 to 61242. *QUERCUS* spp. Fagaceæ. Oak.

These four East Indian oaks are introduced for trial in the warmer parts of the southern United States as shade trees and as possible sources of tannin. The descriptive notes are taken from Miquel's *Flora van Nederlandsch Indie*, vol. 1, and from Ridley's *Flora of the Malay Peninsula*, vol. 3.

61239. *QUERCUS BLUMEANA* Korth.

No. 3. A rather uncommon tree, 40 to 50 feet high, with narrowly oblong, leathery leaves about 8 inches long and roundish silky tomentose acorns three-fourths of an inch wide.

61240. *QUERCUS INDUTA* Blume.

No. 9. A tree with long-pointed, entire leaves and flattened acorns.

61241. *QUERCUS SUNDAICA* Blume.

No. 6. A tall tree, 60 to 80 feet high, with silvery, thinly coriaceous elliptic leaves, and fruits in rather crowded stout spikes. The dark chestnut-colored ovoid-conic acorns are an inch in greatest diameter.

61242. *QUERCUS TEYSMANNII* Blume.

No. 4. A tree with serrate, narrowly oblong, leathery leaves about 6 inches long and ovoid-globose acorns an inch and a half in diameter.

61243 and 61244. *FRAGARIA* spp. Rosaceæ. Strawberry.

From The Hague, Netherlands. Plants presented by the American vice consul, The Hague. Received September 12, 1924.

Dutch strawberry varieties introduced for testing by horticulturists.

61243. *FRAGARIA* sp.*Breadasche.*61244. *FRAGARIA* sp.

"*Deutsch Evern*. A prolific variety with very large, delicious berries." (*J. Abbing & Sons, Zeist, Netherlands, 1922-1923 catalog.*)

61245 to 61252.

From Cape Town, Union of South Africa. Bulbs purchased from W. S. Duke & Co., Cape Town, through H. L. Shantz, Bureau of Plant Industry. Received September 18, 1924.

61245. *BRUNSVIGIA JOSEPHINAE* (Red.) Ker. Amaryllidaceæ.

No. 467. A South African bulbous plant 2 to 3 feet high with eight or ten thick, closely ribbed, strap-shaped leaves and large, brick-red flowers.

61246. *BUPHANE CILIARIS* (L.) Herbert. Amaryllidaceæ.

No. 470. The flower stalks of this remarkable South African amaryllidaceous plant appear before the leaves and bear 50 to 100 dull-purple flowers. The thick, strap-shaped leaves appear later.

61247. *GLADIOLUS* sp. Iridaceæ.

A South African variety.

61245 to 61252—Continued.

61248. *HAEMANTHUS KATHERINAE* Baker. Amaryllidaceæ. Blood lily.

An attractive bulbous plant, native to South Africa, with three to five oblong, pointed leaves borne on a separate stem which appears with the flowers. The bright-red flowers are produced at the summit of an upright peduncle which grows from the base of the leaf stem.

61249. *ORNITHOGALUM NATALENSE* Baker. Liliaceæ.

A white-flowered bulbous plant from the Cape of Good Hope, where several members of this genus are known as "chinchinchees." The dried flower clusters are prized there as "everlastings."

61250. *TRITONIA* sp. (*Montbretia* sp.). Iridaceæ.

The *Tritonias* are South African plants, related to the *ireses*, with narrow leaves and numerous flowers of various colors. In the trade, *Tritonias* are often known as *Montbretias*.

61251. *WATSONIA ROSEA* Ker. Iridaceæ. Bugle lily.

A robust pink-flowered species, 4 to 6 feet high, with strap-shaped narrow leaves. The flowers are in dense or lax spikes, the terminal spikes measuring 6 inches to a foot in length. Native to South America.

61252. *WATSONIA* sp. Iridaceæ. Bugle lily.

The *Watsonias* are South African ornamental plants closely related to the *gladiolus*.

61253. *CANARIUM OVATUM* Engl. Bal-sameaceæ. Fili nut.

From Manila, Philippine Islands. Nuts presented by H. T. Edwards, Bureau of Plant Industry. Received July 29, 1924.

Fili nuts as grown in the Philippines are quite variable in quality, and these now sent in by Mr. Edwards are from particularly choice strains. The tree which is rarely cultivated, is tall, at times reaching 130 feet in height, with dark-green, pinnate leaves over a foot long. According to P. J. Wester (Food Plants of the Philippines), the triangular, pointed nut, inclosed in a black, shining shell, is excellent when eaten raw or roasted and is of high food value.

For previous introduction see S. P. I. No. 54434.

61254 to 61257.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61254. *PANICUM MILIOIDES* Nees. Poaceæ. Grass.

April, 1924. Collected near Sucre, Buenos Aires.

61255 to 61257. *PASPALUM DILATATUM* Poir. Poaceæ. Dallis grass.

61255. March 28, 1924. Collected near Mercedes, Buenos Aires.

61254 to 61257—Continued.

61256. April 5, 1924. Collected near Sucre, Buenos Aires, Argentina. This is one of the most abundant grasses in this locality.

61257. March 30, 1924. Collected near Lupan de Cuyo, Mendoza, Argentina.

61258 to 61267. *SOJA MAX* (L.) Piper
(*Glycine hispida* Maxim.). Fabaceæ.
Soy bean.

From Marugame, Sanuki Province, Japan. Seeds presented by J. Woodrow Hassell. Received August 6, 1924.

Introduced for testing by agronomists engaged in soy-bean experiments.

61258. No. 1.	61263. No. 6.
61259. No. 2.	61264. No. 7.
61260. No. 3.	61265. No. 8.
61261. No. 4.	61266. No. 9.
61262. No. 5.	61267. No. 10.

61268. *CLITANDRA ELASTICA* Cheval.
Apocynaceæ.

From Nigeria, Africa. Seeds presented by the senior conservator of forests, Oloke-mej, Southern Provinces. Received July 29, 1924.

A black rubber of good quality is obtained from this plant by the natives of Nigeria, where it grows wild. It is described by Holland (Useful Plants of Nigeria) as a climbing plant up to 60 feet in height, with elliptic, dark-green leaves, paler below, and spherical fruits the size of a mandarin orange. It is one of the principal sources of vine rubber on the Ivory Coast. When cut to the ground the vine shoots up again from the base. It is introduced for department rubber specialists.

61269 and 61270.

From Summit, Canal Zone. Seeds presented by Holger Johansen, Agronomist, Plant Introduction Garden. Received August 11, 1924.

61269. *ARTOCARPUS COMMUNIS* Forst.
Moraceæ. Breadfruit.

The jackfruit (*Artocarpus integra*) has been grown successfully in southern Florida. The closely allied breadfruit, however, has not yet received an adequate trial in that State, and the department is now attempting to establish this tree in that region. Although it is not anticipated that the breadfruit tree will ever become of economic importance in the continental United States, it is thought that it may prove an interesting addition to the list of tropical economic plants which can be grown in the gardens of southern Florida.

For previous introduction see S. P. I. No. 57771.

61270. *RHEEDIA* sp. Clusiaceæ.

Seeds of a native *Rheedia*. (Johansen.)

Some of the members of this genus of tropical trees have edible fruits. The mangosteen (*Garcinia mangostana*) belongs to this family.

61271. *HIBISCUS* sp. Malvaceæ.

From Koro Levu, via Nadroga, Fiji. Seeds presented by E. M. Bucknell. Received August 1, 1924.

A very handsome hibiscus with single flowers; these are deep, rich red. The plant is straggly in habit, being almost a vine. Propagation is easily effected by seeds. (Bucknell.)

61272. *AVENA ABYSSINICA* Hochst. Poa-
cææ. Oats.

From Asmara, Eritrea, Africa. Seeds presented by the Direttore dell' Ufficio Agrario Sperimentale. Received August 1, 1924.

In the upper part of the middle, or sub-tropical zone, of Abyssinia, where the altitude is approximately 8,000 feet, and also at still higher altitudes in some places, this species of oats is cultivated both as a cereal and for forage, according to Chiovenda (Osservazioni Botaniche nell' Etiopia). Besides the typical form, a number of local strains have been reported.

61273. *CORYLOPSIS GOTOANA* Makino.
Hamamelidaceæ.

From Jamaica Plain, Mass. Cuttings presented by Prof. C. S. Sargent, Arnold Arboretum. Received August 12, 1924.

This is the hardiest member of the genus *Corylopsis*, according to E. H. Wilson, of the Arnold Arboretum, where the plant has never suffered winter injury. It is a wide-spreading, twiggy shrub with delicately fragrant, lemon-yellow flowers in slender, pendent racemes and is one of the first shrubs to bloom in the spring. The individual flowers, three-eighths of an inch across, are rich in nectar. This species is native to the rugged mountains of central Japan.

61274 to 61278.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, Regius Keeper, Royal Botanic Garden. Received June 16, 1924. Notes by Mr. Smith.

Local Tibetan strains of crop plants secured for testing by agronomists.

61274. *HORDEUM VULGARE COELESTE* L.
Poaceæ. Six-rowed barley.

No. 1. From Tuna, at an altitude of about 14,500 feet.

61275. *HORDEUM VULGARE COELESTE* L.
Poaceæ. Six-rowed barley.

No. 2. From Dochen, at an altitude of about 14,000 feet.

61276. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ. Common wheat.

No. 3. From Khangma, at an altitude of about 13,500 feet.

61277 and 61278. *PISUM SATIVUM* L., Fa-
baceæ. Pea.

61277. No. 4. From Khangma, at an altitude of about 13,500 feet.

61278. No. 5. From Grantse, at an altitude of about 13,000 feet.

61279 to 61298. *ORYZA SATIVA* L. Poa-
cææ. Rice.

From Canton, China. Seeds presented by Edward Shim, Department of Agriculture, Canton Christian College. Received July 15, 1924.

61279. *Bak Hok Law*.

61279 to 61298—Continued.

61280. *Fah Loh Check*.
 61281. *Goi Leong Tung Koon Bak*.
 61282. *Ho Kau Guk*.
 61283. *Siu Goo Sun*.
 61284. *Ka Ying Zao*.
 61285. *Kong Sai Zao*.
 61286. *Lok Yip Chim*.
 61287. *Ngung Chim*.
 61288. *Siu Goo Sun*.
 61289. *So She Bak*.
 61290. *Sui Sun Guk*.
 61291. *Su Lo Bak*.
 61292. *Szechuan Chim*.
 61293. *Tai Yip Chim*.
 61294. *Tung Koon Bak*.
 61295. *Vung Ying Chim*.
 61296. *Vung Ying Chun Chim*.
 61297. *Yuen Zui Hung*.
 61298. *Zau Kau Lau*.

61299 and 61300. *SOJA MAX (L.) Piper*
 (*Glycine hispida* Maxim.). Fabaceæ.
 Soy bean.

From Fukuoka, Japan. Seeds presented by Dr. Tyozaburo Tanaka, in charge, Horticultural Institute, Department of Agriculture, Kyushu Imperial University. Received July 24, 1924. Notes by Doctor Tanaka.

61299. *Shiro Aki Daidzu* (white autumn bean). From the Saga Prefectural Agricultural Experiment Station.

61300. *Kuro Aki Daidzu* (black autumn bean). From the Saga Prefectural Agricultural Experiment Station.

61301. *GARCINIA MANGOSTANA L.* Clusiaceæ.
 Mangosteen.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received August 18, 1924.

Mangosteen seeds, originally from Asia; introduced for testing in the tropical dependencies of the United States.

For previous introduction see S. P. I. No. 58027.

61302. *AMYGDALUS PERSICA* × *PERSICA*
NECTARINA. Amygdalaceæ.
 Hybrid peach.

A hybrid originated at the Plant Introduction Garden, Chico, Calif., and now numbered, July 1924, for convenience in distribution.

This variety was produced by J. E. Morrow, superintendent of the Chico Garden, by crossing the Bolivian Cling (S. P. I. No. 36126) and the Quetta nectarine (S. P. I. No. 34684). A description of the fruit follows:

Fruit nearly round, 2 inches in diameter; cavity medium sized, mid-abrupt; suture mostly distinct, shallow; apex with very small point; skin light greenish yellow, overlain with red at stem end and side, slightly tough, separating readily

from the flesh, with heavy tomentum; flesh white, little fiber, juicy, firm, pleasing peachy flavor, clinging to pit; pit large for size of fruit, 1½ inches by 1 inch. A good fruit for home use.

61303. *LYCOPERSICON ESCULENTUM* Mill.
 Solanaceæ. Tomato.

From Nancagua, Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

May 7, 1924. This is said to be the wild tomato, but probably it is the cultivated form which has escaped. (Westover.)

61304 to 61309. *AVENA* spp. Poaceæ.

From Melbourne, Victoria, Australia. Seeds presented by A. E. V. Richardson, Superintendent of Agriculture. Received August 6, 1924. Quoted notes from the Australian Institute of Science and Industry, Bulletin No. 23.

61304 and 61305. *AVENA STERILIS L.* Oats.

61304. "Algerian. A very good general-purpose oat, giving excellent yields in all districts except those where a very early variety is necessary. Occasionally reported as having a tendency to shatter and lodge, but on the whole does neither. Season medium; stooling medium to abundant. The panicle is equilateral, spreading, erect, and rather short." (P. 27.)

61305. "Calcutta. Straw weaker than Algerian [S. P. I. No. 61304], and more inclined to lodge. This variety is reported to be early in most districts, but it is sometimes considered as midseason. The panicle is equilateral, spreading, and erect. (P. 26.)

61306 to 61308. *AVENA SATIVA L.* Oats.

61306. "Dun. A general-purpose variety for the colder districts. Season late; stooling abundant; the panicle equilateral and erect." (P. 21.)

61307. "Quandong. Medium stouter as compared with Ruakura [S. P. I. No. 61308], but has slightly taller, stronger straw. Good variety for dry districts. Season early; panicle equilateral, spreading, erect, and rigid." (P. 22.)

61308. "Ruakura. Good general-purpose oat. Season early; stooling abundant; panicle equilateral, spreading, erect, rigid, lateral branches rigid." (P. 25.)

61309. *AVENA SATIVA* × *STERILIS*.
 Hybrid oats.

"Yarran. Season early; stooling medium, panicle equilateral, erect, long, branches erect, number of lateral branches seven to twelve." (P. 24.)

61310 and 61311. *ZEA MAYS L.* Poaceæ.
 Corn.

From Peru, South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received July 31, 1924.

Introduced for agronomists experimenting with corn varieties.

61310. *Laurel*. 61311. *Granada*.

61312. CITRUS AURANTIFOLIA (Christm.)

Swingle, Rutaceae. Lime.

From Panama. Seeds collected by David Fairchild, Bureau of Plant Industry. Received August 23, 1924.

August 2, 1924. A wild lime growing in dense shade on the new Lathrop Trail just opened up across Barro Colorado Island. The fruits were of medium size, with few seeds, and of excellent quality. (Fairchild.)

61313. MARTINEZIA EROSA Linden. Phœnicaceae. Palm.

From Santiago de las Vegas, Cuba. Seeds presented by Gonzalo Fortun, Director, Estación Experimental Agronómica, through David Fairchild, Bureau of Plant Industry. Received July 25, 1924.

A small ornamental feather-leaved palm from tropical America which is covered throughout with long, needlelike spines. A related species (*M. caryotaefolia*) is grown to some extent in lower Florida.

For previous introduction see S. P. I. No. 51724.

61314. HORDEUM DISTICHON PALMELLA Harlan. Poaceae. Two-rowed barley.

From Czechoslovakia. Seeds presented by Scheuker & Co., Bron. Received August 12, 1924.

To be grown for comparison and cultural tests.

61315 and 61316. URCEOLA ESCULENTA (A. DC.) Benth. Apocynaceae.

From Maymyo, India. Seeds presented by Charles T. Bogg, Superintendent, Government Botanic Garden. Received July 14, 1924.

A vigorous climber from eastern India, which, according to Watt (Dictionary of the Economic Products of India), has received some consideration in that country as a source of rubber. In Burma the plant is cultivated to some extent for the edible fruit, which is about the size of an orange and popular with the natives. It is now introduced for department specialists experimenting with rubber-yielding plants.

61315. From the Conservator of Forests, Tavoy. (Bogg.)

61316. From the Extra Assistant Conservator of Forests, Mergui. (Bogg.)

61317 to 61321.

From Japan. Seeds presented by K. Matsu-shima, through W. S. Field, San Francisco, Calif. Received July 15, 1924.

A collection of seeds sent in without notes; to be grown and tested for value as forage.

61317. AGROPYRON SEMICOSTATUM Nees. Poaceae. Grass.

A perennial, fibrous-rooted grass, with erect stems and narrowly linear leaves. Native to Afghanistan.

61318. AGROPYRON sp. Poaceae. Grass.**61319. HORDEUM NODOSUM L. (H. secalinum Schreb.). Poaceae. Grass.**

A perennial, European grass, of upright habit, about a foot in height.

61317 to 61321—Continued.**61320. MELILOTUS SUAVEOLENS Ledeb. Fabaceae. Sweet clover.**

A Siberian sweet clover introduced for cultural and comparison tests.

61321. VICIA AMOENA Fisch. Fabaceae. Vetch.

A perennial Siberian vetch, with stems up to 4 feet in length and purplish flowers.

61322. MELILOTUS INDICA (L.) All. Fabaceae. Sweet clover.

From Simla, India. Seeds presented by H. E. J. Peake, Khaltoo Fruit Orchards, Solan brewery. Received July 17, 1924.

A local strain of annual yellow melilot, collected near the Solan brewery; introduced for testing by agronomists.

61323. HETEROSPATHE ELATA Scheff. Phœnicaceae. Palm.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, Director, Bureau of Agriculture, at the request of P. J. Wester, Manila. Received July 18, 1924.

A tall, unarmed palm, with a slender, straight stem and long pinnate leaves, growing in protected situations and where the rainfall is evenly distributed. It is one of the most attractive and graceful palms that I have seen, and from my experience with it at Lamao it will make a good plant for the conservatory and possibly a good house palm. (Wester.)

For previous introduction see S. P. I. No. 46640.

61324 to 61328.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received July 5, 1924.

61324. ANOPTERUS GLANDULOSUS Labill. Escalloniaceae.

A handsome evergreen shrub, abundant in Tasmanian forests, with leathery, toothed leaves and rather large flowers, white with a rosy tint, produced in erect, terminal racemes.

61325 and 61326. BILLARDIERA LONGIFLORA Labill. Pittosporaceae.

A twining shrub, sometimes several feet in length, with leaves varying from oval to linear in shape and from half an inch to 2 inches in length. The flowers are pendulous on solitary stems an inch long. This plant grows wild along watercourses in Australia and Tasmania.

For previous introduction see S. P. I. No. 56562.

61325. Pink flowers.**61326. Blue flowers.****61327. DRIMYS LANCEOLATA (Poir.) Baill. (D. aromatica F. Muell.). Magnoliaceae.**

The bark of this Tasmanian shrub or small tree, like that of its Chilean relative (*Drimys winteri*), possesses aromatic properties, and the round drupes, about the size of a pea, are used as a condiment.

61324 to 61328—Continued.

61328. *RICHEA DRACOPHYLLA* R. Br. Euphorbiaceae.

A stout Tasmanian shrub or small tree, described by Bentham (*Flora Australiensis*) as having long, narrow leaves crowded at the ends of the branches, and white or pink flowers, nearly half an inch long, in dense terminal clusters.

61329. *EUPHORBIA ABYSSINICA* Gmel. Euphorbiaceae.

From Asmara, Eritrea, Africa. Seeds presented by the Direttore dell' Ufficio Agrario Sperimentale. Received August 1, 1924.

E. O. Fenzl, of Tripoli, Libia, states (under S. P. I. 61366) that this plant may prove of special interest, since it grows in the poorest and driest soil, attains a height of 30 to 40 feet, and yields a large quantity of latex containing about 5 per cent of first-class rubber.

61330. (Undetermined.)

From Balavaini, Marovo Lagoon, Solomon Islands. Tubers presented by H. Trevor Fairbrother. Received August 6, 1924.

The tubers of this plant are small, about the size, shape, and flavor of Morton's tinned new potatoes. The plant bears in about two months from planting, and the "potatoes" are not borne underground, but on the vine, which bears from 300 to 2,000 tubers of varying size. This is an ideal substitute for the potato. (*Fairbrother*.)

61331. *CRATAEGUS ORIENTALIS* Pall. Malaceae. Hawthorn.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, Director, Royal Botanic Gardens. Received November 10, 1923. Numbered July, 1924.

A shrub or small tree, native to dry, stony places in Asia Minor and southeastern Europe. According to the late Frank N. Meyer (in his note under S. P. I. 26765), it is able to withstand much heat and drought. The flowers are in dense corymbs, and the fruits are dark red.

For previous introduction see S. P. I. No. 26765.

61332 and 61333. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Edinburgh, Scotland. Seeds presented by John Donaldson & Co. through G. C. Edler, Bureau of Agricultural Economics. Received August 15, 1924.

Local clover strains from two localities in England, introduced for testing by clover specialists.

61332. No. 1.

61333. No. 2.

61334 to 61352.

From Sapporo, Japan. Seeds presented by J. Minami, College of Agriculture, Sapporo, through C. R. Ball, Bureau of Plant Industry. Received August 15, 1924.

Introduced for specialists engaged in experimenting with various types of cereals.

61334 to 61338. *HORDEUM DISTICHON* PALMELLA Harlan. Poaceae.

Two-rowed barley.

61334 to 61352—Continued.

61334. *Chevalier* (spring).

61335. *Golden melon* (spring).

61336. *Hanna* (spring).

61337. *Hokudai No. 1* (spring).

61338. *Date No. II* × *Hokudai No. I* (winter).

61339 to 61342. *HORDEUM VULGARE* PALLIDUM Seringe. Poaceae.

Six-rowed barley.

61339. *Erhardt Frederiksens* (spring).

61340. *Imperial* (spring).

61341. *Date No. II* (winter).

61342. *Date No. II* × *Hokudai No. I* (winter).

61343 to 61350. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.

Common wheat.

61343. *Green Mountain* (spring).

61344. *Sapporo* (spring).

61345. *White fife* (spring).

61346. *Akakawa aka* (red grain, winter).

61347. *Red genealogical* (winter).

61348. *Sandmilka* (winter).

61349. *Shirokawa shiro* (white grain, winter).

61350. *White Champion* (winter).

61351 and 61352. *TRITICUM DURUM* Desf. Poaceae. Durum wheat.

61351. *Medea* (spring).

61352. *Roumania* (spring).

61353 to 61355. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Lemberg, Poland. Seeds received August 28, 1924. Introduced for testing by clover breeders.

61353. (No. 1.)

61355. (No. 3.)

61354. (No. 2.)

61356 to 61365. *CICER ARIETINUM* L. Fabaceae. Chick-pea.

From Poona, Bombay, India. Seeds presented by Dr. William Burns, Economic Botanist, College of Agriculture. Received August 20, 1924. Notes by Doctor Burns.

Introduced for trial as stock feed in the southwestern United States.

61356. No. 1. White variety from Poona.

61357. No. 2. Yellow variety from Poona.

61358. No. 3. Small, yellow variety from Dohad.

61359. No. 4. Small, white variety from Dohad.

61360. No. 5. Small, red variety from Dohad.

61361. No. 6. Small variety from Ahmednagar.

61362. No. 7. Yellow variety from Belgam.

61363. No. 8. From Belgam.

61356 to 61365—Continued.

61364. No. 9. Karachi from Mandalay.

61365. No. 10. Burmese from Mandalay.

61366 and 61367.

From Tripoli, Libia, North Africa. Seeds presented by Dr. E. O. Fenzi. Received August 20, 1924.

61366. *EUPHORBIA ABYSSINICA* Gmel. Euphorbiaceae.

This may prove of special interest, since it grows in the poorest and driest soil, attaining a height of 30 to 40 feet, and yields a large quantity of latex containing 5 per cent of first-class rubber. (Fenzi.)

For previous introduction see S. P. I. No. 61329.

61367. *SALVADORA PERSICA* L. Salvadoraceae.

A shrub or small tree which grows commonly in dense clumps on the shores of Lake Chad, Africa. The seeds contain about 45 per cent of fat, according to Holland (Useful Plants of Nigeria); this is suitable for making candles. The pungent shoots and leaves are eaten as salad and also given to stock as fodder.

For previous introduction see S. P. I. No. 53845.

61368 to 61372. *PHASEOLUS CALCARATUS* Roxb. Fabaceae. Rice bean.

From Mandalay, Burma. Seeds presented by M. McGibbon, Economic Botanist, Mandalay, through C. V. Piper, Bureau of Plant Industry. Received August 20, 1924.

Five varieties of rice beans obtained for testing by forage-crop specialists.

61368. *Be or Pe yin*.61369. *Bete or Chinpè*.61370. *Betè Be or Chinpè* (large).61371. *Betè Be or Chinpè* (small).61372. *Kachin-pè*.61373. *BAMBOS POLYMORPHA* Munro. Poaceae. Bamboo.

From Dehra Dun, United Provinces, India. Seeds presented by P. C. Kanjilal, Forest Botanist, Forest Research Institute and College. Received August 13, 1924.

A tropical species found in Bengal and Burma. The plants grow in tufts or clumps, often reaching a height of 60 to 80 feet. The leaves are small, 3 to 7 inches long, and from one-fourth to one-half an inch wide. Suitable only for extreme southern Florida and our tropical insular regions; should thrive in the Canal Zone. The plant is not abundant in the Indian forests but is often met with in tropical botanical gardens such as the one at Calcutta, India.

61374 to 61377. *COLOCASIA* spp. Araceae. Taro.

From Papeete, Tahiti. Tubers presented by C. C. Campbell. Received August 25, 1924. Notes by Mr. Campbell.

61374. *COLOCASIA* sp.

Black variety; a dry-land taro from my plantation on the island of Moorea, at an altitude of about 300 feet.

61374 to 61377—Continued.

61375. *COLOCASIA* sp.

This is called "Chinese taro" here; I bought it in the market at Papeete.

61376. *COLOCASIA* sp.

Red variety, from the same locality as the black variety [S. P. I. No. 61374].

61377. *COLOCASIA* sp.

This is called "tarua" here; it is a very good dry-land plant and was grown on my plantation on Tahiti, at an altitude of 50 feet.

61378 to 61384. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Czechoslovakia. Seeds presented by Dr. Rudolf Kuraz, Czechoslovakian Legation, Washington, D. C. Received August 25, 1924.

Local strains of red clover introduced from Czechoslovakia for breeding tests.

61378. No. 1-B. 61382. No. 5-B.

61379. No. 2-B. 61383. No. 6-B.

61380. No. 3-B. 61384. [No notes.]

61381. No. 4-B.

61385. *ACROCOMIA SCLEROCARPA* Mart. Phenicaceae. Macauba palm.

From Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus, Zacuapam. Received August 26, 1924.

A graceful, spiny, tropical American palm, 30 to 45 feet high, with a terminal cluster of narrow, pinnate leaves. When matured, the inside of the trunk furnishes excellent starch equal in quality to that of the cassava plant. The leaves yield strong fiber, utilized by the natives of Paraguay for making hammocks. From the yellowish fruits, about an inch in diameter, an excellent edible oil is expressed.

For previous introduction see S. P. I. No. 53487.

61386 and 61387.

From La Providencia, Chiapas, Mexico. Presented by Dr. C. A. Purpus. Received August 20, 1924.

61386. *CHAMAEDOREA TEPEJILOTE* Liebm. Phenicaceae. Palm.

Seeds of a relative of the pacayito (*Chamaedorea elegans*); this is a slightly larger palm, becoming about 10 feet high, with leaves 4 feet long. Doctor Purpus says that the undeveloped flowers make an excellent vegetable and are eaten throughout the State of Vera Cruz, Mexico. It grows best in shady places.

61387. *XANTHOSOMA VIOLACEUM* Schott. Araceae. Yautia.

Corms of a very handsome Mexican plant, related to the elephant-ear. The leaves are dark bluish green with very dark stems.

61388 to 61392.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61388. *AELUROPUS LITTORALIS* (Gouan) Parl. Poaceae. Grass.

A hardy grass which thrives in sandy places and is said to yield hay of high quality.

61388 to 61392—Continued.

61389 to 61391. *AGROPYRON* spp. Poaceæ.
Grass.

61389. *AGROPYRON ORIENTALE* (L.) Roem. and Schult.

An annual, much-branched grass, of prostrate-ascending habit, native to sandy places in Asia Minor and Turkestan.

61390. *AGROPYRON SIBIRICUM* (Willd.) Beauv.

A perennial, caespitose grass, native to Siberia, with erect or ascending stems about 15 inches high.

For previous introduction see S. P. I. No. 57222.

61391. *AGROPYRON TRITICEUM* Gaertn.

An annual Siberian grass, much branched at the base, with stems 8 inches or less in length.

61392. *ALHAGI PSEUDALHAGI* (Bieb.) Desv. (*A. camelorum* Fisch.). Fabaceæ.
Camel's thorn.

The camel's thorn is a very prickly, herbaceous, perennial plant, native to central Asia. It grows on very dry lands, often strongly alkaline, but is likely to become a serious weed if allowed to get beyond control. The pinkish brown flowers appear to be rich in nectar. Introduced for forage-crop specialists.

61393. *ACACIA CAVENIA* (Molina) Bertero. Mimosaceæ. Cavan.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

A much-branched, spiny shrub about 20 feet high, native to Chile. The large, globular flower heads are deep yellow and very fragrant. A good hedge plant.

61394 to 61401.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61394. *AMMODENDRON KARBLINI* Fisch. and Mey. Fabaceæ.

A yellow-flowered shrub, native to the shores of the Caspian Sea.

61395. *ARTEMISIA SONGARICA* Schrenk. Asteraceæ. Wormwood.

A low, shrubby plant, closely related to the wormwoods.

61396 to 61398. *ASTRAGALUS* spp. Fabaceæ.

61396. *ASTRAGALUS CONTORTUPLICATUS* L.

An annual plant, with erect or ascending stems 4 to 15 inches long, native to southern Europe.

61397. *ASTRAGALUS TESTICULATUS* Pall.

A perennial, caespitose, densely hairy astragalus from the desert regions of southern Siberia.

61398. *ASTRAGALUS VULPINUS* Willd.

A perennial astragalus from the desert regions of southeastern Siberia.

61399. *AVENA SATIVA* L. Poaceæ. Oats.

A local strain introduced for cultural tests.

61394 to 61401—Continued.

61400. *BROMUS DANTHONIAE* Trin. Poaceæ.
Grass.

An annual grass, usually upright or ascending in habit, native to southern Europe and central Asia.

61401. *BROMUS JAPONICUS* Thunb. Poaceæ. Grass.

A biennial, upright or ascending grass of wide distribution in Europe and Asia. It commonly becomes 1 to 2 feet high.

61402. *MEDICAGO SATIVA* L. Fabaceæ.
Alfalfa.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

June 10, 1924. These seeds were procured through Williamson & Co., and are said to come from the Huasco Valley. (Westover.)

61403. *CAPPARIS SPINOSA* L. Cappari-
daceæ. Capar.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A trailing shrub armed with stipular spines, with leathery roundish leaves and large, white flowers. The buds are pickled as "capers." Native to the Mediterranean region.

61404 to 61406. *PROSOPIS* spp. Mimosaceæ.

From South America. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61404. *PROSOPIS* sp.

Lampa, Chile. May 13, 1924. Trees very large, with trunk sometimes attaining a diameter of 1½ feet or more.

61405. *PROSOPIS* sp.

Paso de los Andes, Mendoza, Argentina. March 31, 1924.

61406. *PROSOPIS* sp.

Alto del Carmen, Chile. June 1, 1924.

61407. *CICER ARIETINUM* L. Fabaceæ.
Chick-pea.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

Introduced for testing as forage.

61408 to 61410. *PASPALUM DISTICHUM* L. Poaceæ. Grass.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61408. Cunaco. May 7, 1924.

61409. June 5, 1924. From the estate of Señor Izquierdo, Santa Ines.

61410. May 7, 1924. Collected near Nancagua. Forms the main pasture grass in this region and grows as a weed in the cultivated fields.

61411 and 61412.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61411. *CRYSIS ACULEATA* (L.) Ait. Poaceae. Grass.

A spreading annual grass, native to the Mediterranean region.

61412. *DELPHINIUM RUGULOSUM* Boiss. Ranunculaceae. Larkspur.

An annual plant, described by Boissier (*Flora Orientalis*) as being 4 to 5 inches high, often with several stems, and with grayish blue flowers.

61413 and 61414. *PASPALUM DISTICHUM* L. Poaceae. Grass.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

61413. March 31, 1924. This grass, similar to carpet grass, is found around irrigating ditches and roadways and in vineyards near Mendoza. (*Westover*.)

61414. April 5, 1924. Collected at Sucre. This grass, highly relished for pasture, is common along the roads and in closely grazed pastures. (*Westover*.)

61415 to 61419.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61415. *ECHINOCHLOA CRUSGALLI* (L.) Beauv. Poaceae. Barnyard grass.

Introduced for testing by forage-plant specialists.

61416. *ELYMUS ARALENSIS* Regel. Poaceae. Grass.

A tall, erect, perennial grass, native to Siberia.

61417. *ELYMUS GIGANTEUS* Vahl. Poaceae. Grass.

A tall, erect, perennial grass, native to Siberia.

61418. *EPHEDRA DISTACHYA* L. Gnetales.

A low, decumbent shrub with pale or bluish green stems and scarlet, berrylike fruits. Native to southern Europe and western Asia.

61419. *ERAGROSTIS MINOR* Host. Poaceae. Grass.

An annual, much-branched grass, with jointed, ascending stems up to a foot and a half long. Widely distributed throughout the North Temperate Zone.

61420. *PASPALUM DISTICHUM* L. Poaceae. Grass.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

June 7, 1924. Seeds presented by Enrique Matte, Buin. (*Westover*.)

61421. *EVERSMANNIA SUBSPINOSA* (Fisch.) B. Fedtsch. Fabaceae.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A shrubby, slightly spiny plant, native to arid regions in southeastern Russia.

61422. *PHALARIS BULBOSA* Jusl. Poaceae.

From Buenos Aires, Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

April 8, 1924. Obtained from the Bridger brothers. (*Westover*.)

61423 to 61427.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61423. *FRITILLARIA KARELINI* (Fisch.) Baker. Liliaceae.

A dwarf, compact species, which, according to Boissier (*Flora Orientalis*), has lilac flowers produced in 3 to 12 flowered racemes.

61424 to 61427. *GLYCYRRHIZA* spp. Fabaceae. Licorice.

61424. *GLYCYRRHIZA ASPERA* Pall.

A perennial plant with ascending stems and purplish flowers; found native in semiarid regions of southern Siberia.

61425. *GLYCYRRHIZA GLABRA* L.

A perennial, somewhat woody plant, with thick, subterranean runners and stout, upright stems sometimes 3 feet high. Native to southern Europe and Turkistan.

61426. *GLYCYRRHIZA TRIPHYLLA* Fisch. and Mey.

An erect, perennial plant, 1 to 2 feet high, with pinkish white flowers. Native to Siberia.

61427. *GLYCYRRHIZA URALENSIS* Fisch.

An erect perennial plant with hairy stems; native to the Ural Mountains, Siberia. Introduced for testing as forage.

61428. *POLYPOGON CRINITUS* Trin. Poaceae. Grass.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

Boros. May 24, 1924. (*Westover*.)

61429. *HELEOCHLOA SCHOENOIDES* (L.) Host. Poaceae. Grass.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A low, perennial, spreading grass with dense, spike-like panicles. Native to the Mediterranean region.

61430 to 61432. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

These wheats, procured from a seedsman in Chile, are said to be the three varieties most commonly grown. (*Westover*.)

61430. *Blanco* wheat.

61431. *Egypto* wheat.

61432. *Florence* wheat.

61433. LIMONIUM OTOLEPIS (Schrenk)
Kuntze (*Statice otolepis* Schrenk).
Plumbaginaceae. Sea lavender.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A perennial plant, native to Turkestan, with small, narrowly ovate leaves and short spikes of white flowers.

61434 and 61435.

From South America. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61434. SOLANUM MURICATUM Ait. Solanaceae. Pepino.

Ovalle, Chile. June 1, 1924. One sees large acreages of this plant in the small irrigated valleys of northern Chile. The fruits, highly prized among the natives, are very sweet and juicy and rather palatable. They are sold everywhere in the markets, and the natives even flock around all the trains in an effort to sell them.

61435. SORGHASTRUM sp. Poaceae. Grass.

April 8, 1924. These seeds, said to have come originally from Brazil, were purchased in a store in Buenos Aires under the name of Yarogua. They are especially suited to wet lands.

61436 to 61438.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61436. MEDICAGO SATIVA L. Fabaceae. Alfalfa.

Introduced for cultural and comparison tests.

61437. MELILOTUS ALBA Desr. Fabaceae. White sweet clover.

Introduced for testing by forage-crop specialists.

61438. PEGANUM HARMALA L. Zygophyllaceae.

An erect, strong-scented, shrubby plant, 2 to 3 feet high, with irregularly cut leaves and terminal, white flowers. Native to the Mediterranean region.

61439 and 61440.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

61439. SPOROBOLUS SUBINCLUSUS Phil. Poaceae. Grass.

March 30, 1924. This grass is abundant in the pastures around Lupan de Cuyo, Mendoza, but is apparently not relished by cattle. (Westover.)

61440. STENOTAPHRUM SECUNDATUM (Walt.) Kuntze. Poaceae. Grass.

April 8, 1924. Collected southeast of Buenos Aires, where it is highly esteemed as a pasture grass. (Westover.)

61441. POLYPOGON MARITIMUS Willd. Poaceae. Grass.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A low, annual grass, with laxly ascending stems not over a foot in length. Native to the Mediterranean region.

61442 and 61443.

From South America. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61442. STIPA PAPPOSA Nees. Poaceae. Grass.

April 5, 1924. Collected near Sucre, Argentina. This grass is apparently not relished by cattle so long as other grasses are available.

61443. VICIA sp. Fabaceae. Vetch.

Placilla, Chile. May 24, 1924.

61444. SPHAEROPHYSA SALSULA (Pall.) DC. Fabaceae.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A perennial herbaceous plant, native to Turkestan, with erect stems and racemes of purplish flowers.

61445. ZEA MAYS L. Poaceae. Corn.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

Hacienda El Tambo, Mallao. May, 1924. (Westover.)

61446 and 61447.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61446. TRIGONELLA ARCUATA Meyer. Fabaceae.

An annual leguminous plant found native in dry situations in Asia Minor.

61447. TULIPA BORSZCZOWI Regel. Liliaceae. Tulip.

A Russian tulip with stems 12 to 18 inches high, bluish green, narrowly ovate leaves up to 6 inches in length, and red flowers with black blotches at the base of the petals.

61448 to 61477. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

From Khartum, Anglo-Egyptian Sudan. Seeds presented by the Government Experiment Farm, through H. V. Harlan, Bureau of Plant Industry. Received August 25, 1924.

61448. Abu Carakish.

61449. Abu Khimmer.

61450. Abu Shanab No. 9.

61451. Ahamar No. 21.

61452. Beid-el-Chor.

61453. Dura Abiad No. 1.

61454. Dwarf Feterita No. 811.

61455. Dwarf Hegari.

61456. Dwarf Milo No. 1933.

61457. El Hacherag.

61458. Feterita.

61459. Feterita No. 25.

61460. Gassabi.

61461. Hegeiri.

61448 to 61477—Continued.

61462. *Hemesi*.
 61463. *Higiri* No. 6.
 61464. *Kalm Ahmer*.
 61465. *Khamis Wad Gah*.
 61466. *Korgi* No. 1.
 61467. *Milo kaoliang* (hybrid) No. 1473.
 61468. *Mogd Wad Fadl*.
 61469. *Mugeed*.
 61470. *Neili Neili* No. 7.
 61471. *Safra Bahr-el-Abiad*.
 61472. *Safra el Dahara*.
 61473. *Shal Shalih* No. 4.
 61474. *Shallouft el Naga*.
 61475. *Shikori* No. 2.
 61476. *Um Gorirrat*.
 61477. *Waga*.

61478 to 61505.

From Amani, Tanganyika Territory, Africa. Seeds presented by Alleyne Leechman, Director, Biological and Agricultural Institute. Received August 27, 1924.

61478. *ADENANTHERA MICROSPERMA* Teijsm. and Binn. Mimosaceæ.

No. 12. An East Indian tree, resembling the mimosas in general appearance; it is occasionally planted in eastern Java as a shade tree, according to C. A. Backer (*Schoolflora voor Java*).

- 61479 to 61481. *ALBIZZIA* spp. Mimosaceæ.

61479. *ALBIZZIA ADIANTHIFOLIA* (Schum.) W. F. Wight (*A. fastigata* E. Mey.).

No. 16. This tropical African species, like many others of the genus, is a large, handsome tree of spreading habit, which is suitable as a shade tree in tropical or perhaps subtropical regions.

For previous introduction see S. P. I. No. 49288.

61480. *ALBIZZIA CHINENSIS* (Osbeck) Merr. (*A. stipulata* Boiv.).

No. 20. A large, rapid-growing tree, native to the subtropical regions of eastern India. It is said by Watt (*Dictionary of Economic Products of India*) to have been found very satisfactory in Assam as a shade tree for tea. The roots do not penetrate the soil deeply, and the foliage does not make a dense shade.

For previous introduction see S. P. I. No. 51143.

61481. *CASSIA SIAMEA* Lam. Cæsalpinaceæ.

No. 19. The kassod tree is described by J. F. Rock (*Ornamental Trees of Hawaii*, p. 99) as being rather low, with twiggy branches and bluish leaves up to a foot in length. In the late summer and early fall, when all other showy leguminous trees have ceased to bloom, this tree bears axillary and terminal panicles of attractive bright-yellow flowers. In Honolulu it has been planted more or less extensively in private grounds. The native home of the kassod tree is southern India and Malaysia.

For previous introduction see S. P. I. No. 54924.

61478 to 61505—Continued.

61482. *BERRIA AMMONILLA* Roxb. Tiliaceæ.

No. 47. "Trincomalli wood" is the name under which the very hard, durable, dark-red wood of this Indian tree is exported, according to Watt (*Dictionary of the Economic Products of India*). The wood is used for making agricultural implements and for other purposes where toughness and hardness are desired. The tree is large, with long-stemmed, heart-shaped leaves and dense racemes of small, white flowers. Its distribution includes the Malay Archipelago and the Philippines.

61483. *CASTILLA ELASTICA* Cerv. Moraceæ. Rubber tree.

No. 75. Seeds of this tropical American rubber tree have been obtained for the use of department rubber specialists.

For previous introduction see S. P. I. No. 42363.

61484. *CASUARINA DISTYLA* Vent. Casuarinaceæ.

No. 76. Unlike many of the better-known casuarinas, this species is usually a small shrub 2 to 3 feet high. It is common in Tasmania and in parts of southern Australia.

61485. *COFFEA BUKOBENSIS* Zimmerm. Rubiaceæ. Coffee.

No. 104. The coffee grown in the vicinity of Bukoba, Tanganyika Territory, was formerly supposed to be a variety of *Coffea arabica*, but Zimmermann (*Der Pflanzer*, vol. 4) maintains that it is a separate species and has named it *C. bukobensis*. The differences are in the venation of the leaves and flower structure, and culturally this species is very similar to *C. arabica*.

61486. *COFFEA QUILLOU* P. J. S. Cramer. Rubiaceæ. Coffee.

No. 108. Introduced for cultural and comparison tests in tropical America.

Introduced into the East Indies from Libreville, French Congo; in 1901 this was found to be distinct from *Coffea robusta*. The leaves are narrower and brighter green and the young trees are pyramidal in habit. The berries are bright red, not dark crimson, and oblong. The crop matures later than *C. robusta* and under favorable circumstances is larger than that of any other coffee. Under less favorable conditions *C. robusta* is more productive. (Note taken from *Tea and Coffee Trade Journal*, vol. 35, p. 477.)

- 61487 and 61488. *CRYPTOMERIA JAPONICA* (L. f.) D. Don. Pinaceæ.

61487. No. 119. Var. *aracarioides*. "A variety of pyramidal habit resembling *Araucaria excelsa*." (Alfred Rehder, *Arnold Arboretum*.)

61488. No. 120. Var. *glabra*. A glabrous variety.

61489. *CUPRESSUS FUNEBRIS* Endl. Pinaceæ. Mourning cypress.

No. 123. Var. *glauca*. A glaucous variety of the mourning cypress (*Cupressus funebris*); the typical form is a wide-spreading, pendulous, Chinese species.

61478 to 61505—Continued.

61490. *FICUS CHLAMYDODORA* Warb. Moraceae.

No. 171. A stately tree grown largely as a shade tree in parts of tropical Africa because of the handsome foliage and brick-red branches. According to Holland (Useful Plants of Nigeria), twice a year it bears abundant crops of peach-colored figs, which are fairly sweet and juicy.

61491. *FUNTUMIA ELASTICA* (Preuss) Stapf. Apocynaceae. Lagos rubber tree.

No. 177. A large forest tree which is very widely distributed throughout central Africa and is the source of Lagos rubber, which is of excellent quality. It is being introduced with a view of including it in the collection of rubber plants now being brought together in southern Florida for investigational purposes.

For previous introduction see S. P. I. No. 58963.

61492. *LANDOLPHIA KIRKII* Dyer. Apocynaceae.

No. 205. A number of native climbing plants are used in East Africa as sources of native rubber, and this shrubby vine is one of the most important, according to Thiselton-Dyer (Flora of Tropical Africa). It has thin, tough leaves, loose clusters of whitish flowers, and roundish fruits 1 to 3 inches in diameter.

For previous introduction see S. P. I. No. 52583.

61493. *LANDOLPHIA STOLZII* Busse. Apocynaceae.

No. 206. A number of *Landolphia*s are being introduced from tropical Africa for testing by department rubber specialists. This one is described by Thiselton-Dyer (Flora of Tropical Africa) as a climbing shrub with small, oval leaves, dense clusters of white, sweet-scented flowers, and fruits resembling small oranges.

61494. *LILIUM REGALE* Wilson. Liliaceae.
Royal lily.

No. 210. Seeds of the royal lily as grown in Africa, introduced for the use of lily breeders.

61495. *LINOMA ALBA* (Bory) O. F. Cook. Phœnicaceae.

No. 8. A slender, spineless, pinnate-leaved palm resembling *Areca* in habit, 30 feet or more in height, and native to tropical Asia. The leaves of the mature plant are 8 to 12 feet long. When young this makes a very desirable house palm.

For previous introduction see S. P. I. No. 43583.

61496 and 61497. *MANIHOT GLAZIOVII* Muell. Arg. Euphorbiaceae.

Ceara rubber.

Ceara rubber, obtained from this tree, is one of the important rubbers of commerce. These seeds are introduced for testing by rubber specialists.

For previous introduction see S. P. I. No. 46809.

61496. No. 217.

61497. No. 216. Received as *Manihot dichotoma*, but the seeds are not of that species.

61478 to 61505—Continued.

61498. *MASCARENHASIA ELASTICA* Schum. Apocynaceae.

No. 220. A shrubby tropical African tree, 20 to 30 feet high, which furnishes rubber said to be of about the same quality as that from *Landolphia kirkii*. Introduced for testing by rubber specialists.

61499. *MONODORA MYRISTICA* (Gaertn.) Dunal. Annonaceae. Calabash nutmeg.

No. 225. The calabash nutmeg is described in Curtis's Botanical Magazine (pl. 3059) as a large, spreading, tropical African tree, with shining, pale-green leaves, and fragrant flowers. The latter, borne singly in the leaf axils, are about 6 inches across, with six petals; three of these are spreading and yellow, the other three are erect and creamy white, and all are dotted with red. The fruit, 4 to 6 inches in diameter, contains a number of cylindric seeds about an inch long; these have a flavor resembling closely that of the common nutmeg.

For previous introduction see S. P. I. No. 47500.

61500. *MUSA TEXTILIS* Nee. Musaceae.
Abaca.

No. 227. Abaca seeds introduced for testing by fiber-plant specialists.

For previous introduction see S. P. I. No. 57696.

61501. *PTYCHOSPERMA* sp. Phœnicaceae.
Palm.

No. 34. Palms of this genus have smooth, ringed trunks, crowned at the summit by a dense cluster of pinnate leaves.

61502. *SCHIZOLOBIUM PARAHYBUM* (Vell.) Blake (*S. excelsum* Vog.). Cæsalpiniaceae.
Bacarabú.

No. 275. A tall leguminous tree, sometimes 120 feet high in Brazil, its native country, with large, handsome, fernlike leaves and large panicles of yellow flowers. It is of possible value as a shade and ornamental tree for the warmest parts of Florida.

For previous introduction see S. P. I. No. 45621.

61503. *SYZYGIIUM OWARIENSE* (Beauv.) Benth. (*Eugenia owariensis* Beauv.). Myrtaceae.

No. 169. A tropical African tree, 30 to 40 feet high, closely related to the jambolan (*Syzygium jambolana*). The small fruits are eaten by the natives of Nigeria, according to Holland (Useful Plants of Nigeria), and the tree is good for timber.

61504. *TELFAIREA PEDATA* (J. E. Smith) Hook. Cucurbitaceae.

No. 288. In the eastern sections of tropical Africa the roundish seeds produced by this clinging shrub are boiled and eaten by the natives. The perennial stems become 50 to 100 feet long; the flowers are pale purple, and the oblong fruits, 2 to 3 feet long, contain many seeds. These seeds also yield an abundance of oil which is said to be equal in quality to olive oil, according to an analysis made at the Imperial Institute, London.

For previous introduction see S. P. I. No. 55504.

61478 to 61505—Continued.

61505. *TERMINALIA BELLERICA* (Gaertn.) Roxb. Combretaceae.

No. 291. The small, round fruits of this handsome tropical Indian tree have been exported from India for tanning purposes under the name of myrobalans. The yellowish gray wood is used for general construction. The tree also has merit as a shade tree for avenues, with its huge buttressed trunk and long horizontal branches.

For previous introduction see S. P. I. No. 59686.

61506 to 61592. *HORDEUM* spp. Poaceae.

From Leningrad, Russia. Seeds presented by Prof. N. I. Vavilov, Director, Bureau of Applied Botany and Plant Breeding. Received July 11, 1924. Notes by Professor Vavilov.

61506. *HORDEUM DISTICHON NUDEM* L. Two-rowed barley. No. 3773.

61507 to 61510. *HORDEUM DISTICHON PALMELLA* Harlan. Two-rowed barley. Pure-line varieties.

61507. No. 0114. Province of Tiflis.

61508. No. 0149. Province of Kutais.

61509. No. 0110. Province of Erivan.

61510. No. 0624. Province of Erivan.

61511 to 61568. *HORDEUM VULGARE COELESTE* L. Six-rowed barley.

From Mongolia.

61511. No. 3878. 61520. No. 3927.

61512. No. 3880. 61521. No. 3929.

61513. No. 3886. 61522. No. 3942.

61514. No. 3887. 61523. No. 3998.

61515. No. 4242. 61524. No. 4020.

61516. No. 3904. 61525. No. 4023.

61517. No. 3912. 61526. No. 4024.

61518. No. 3922. 61527. No. 4026.

61519. No. 3923. 61528. No. 4028.

61529 to 61559. Subvariety *himalayense*.

61529. No. 3939. 61545. No. 4035.

61530. No. 3938. 61546. No. 4037.

61531. No. 3945. 61547. No. 4038.

61532. No. 3985. 61548. No. 4039.

61533. No. 3995. 61549. No. 4040.

61534. No. 3997. 61550. No. 4041.

61535. No. 4001. 61551. No. 4042.

61536. No. 4007. 61552. No. 4043.

61537. No. 4008. 61553. No. 4060.

61538. No. 4017. 61554. No. 4061.

61539. No. 4019. 61555. No. 4062.

61540. No. 4029. 61556. No. 4068.

61541. No. 4030. 61557. No. 4071.

61542. No. 4031. 61558. No. 4074.

61543. No. 4032. 61559. No. 4075.

61544. No. 4034.

61560 to 61568. Subvariety *violaceum*.

61506 to 61592—Continued.

61560. No. 3885. 61565. No. 3921.

61561. No. 3917. 61566. No. 3927.

61562. No. 3918. 61567. No. 4000.

61563. No. 3919. 61568. No. 4082.

61564. No. 3920.

61569. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.

No. 017. Province of Don. A pure-line variety.

61570 to 61592. *HORDEUM VULGARE PAL-LIDUM* Serlinge. Six-rowed barley.

61570 to 61574. Pure-line varieties.

61570. No. 099. Province of Erivan.

61571. No. 0210. Province of Tiflis.

61572. No. 0315. Province of Tiflis.

61573. No. 0303. Province of Vologda.

61574. No. 0304. Province of Vologda.

61575. No. 2789. Province of Archangel.

61576 to 61591. From Mongolia.

61576. No. 3926. 61584. No. 4064.

61577. No. 4044. 61585. No. 4065.

61578. No. 4147. 61586. No. 4069.

61579. No. 4052. 61587. No. 4070.

61580. No. 4053. 61588. No. 4073.

61581. No. 4055. 61589. No. 4077.

61582. No. 4059. 61590. No. 4079.

61583. No. 4063. 61591. No. 4083.

61592. Subvariety *rikotense*.

No. 0621. Province of Elizabetpol.

61593 and 61594.

From Darjiling, India. Seeds presented by G. H. Cave, Curator, Lloyd Botanic Garden. Received September 4, 1924.

61593. *ACACIA CATECHU* (L. f.) Willd. Mimosaceae.

The pale-yellow gum obtained from this acacia has very strong adhesive powers and is considered a better substitute for gum arabic than that from *Acacia arabica*, according to Watt (Dictionary of the Economic Products of India). The tree is found wild in parts of India and Burma, where it sometimes becomes 70 feet high, though usually smaller. The leaves are very finely pinnate, and the white or pale-yellow flowers are in spikes.

For previous introduction see S. P. I. No. 55420.

61594. *ALBIZZIA PROCERA* (Roxb.) Benth. Mimosaceae.

A tall, handsome, tropical tree, often 60 to 80 feet high, with yellowish or greenish white bark, large compound leaves, and terminal panicles of yellowish white flowers. In Burma, Bengal, and southern India, where the tree is native, the brown heartwood is used for making agricultural implements.

For previous introduction see S. P. I. No. 47832.

61595. XANTHOSOMA VIOLACEUM Schott. Araceae. Yautia.

From La Providencia, Chiapas, Mexico. Corms presented by Dr. C. A. Purpus. Received September 12, 1924.

A very handsome Mexican plant, related to the elephant-ear. The leaves are dark bluish green with very dark stems.

For previous introduction see S. P. I. No. 61387.

61596 to 61625.

From Darjiling, India. Seeds presented by G. H. Cave, Curator, Lloyd Botanic Garden. Received September 4, 1924.

61596. BISCHOFIA TRIFOLIATA (Roxb.) Hook. (*B. javanica* Blume). Euphorbiaceae.

A tropical, deciduous tree which is sometimes called "red cedar" in northeastern India, because of the reddish color of the wood, which is used for general construction. The dense, oval crown and deep-green foliage make the tree very handsome.

For previous introduction see S. P. I. No. 51194.

61597. BOEHMERIA MACROPHYLLA D. Don. Urticaceae.

According to Watt (Dictionary of the Economic Products of India) this is a broad-leaved shrub, native to northeastern India at an altitude of about 4,000 feet. The bark yields a fiber much prized by the natives of India for making fish nets.

61598. BUCKLANDIA POPULNEA R. Br. Hamamelidaceae.

J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry, who has collected this species in southwestern Yunnan, not far from the border of India, describes it as a tall, straight tree, 60 to 80 feet high, of handsome appearance, and growing in that region at an altitude of 6,000 feet. The broadly triangular leaves are dark green, and the yellow male flowers are in globose heads.

For previous introduction see S. P. I. No. 56637.

61599. CHONEMORPHA MACROPHYLLA (Roxb.) Don. Apocynaceae.

A large climber, native to Bengal and Burma, with milky sap from which a kind of caoutchouc is obtained.

For previous introduction see S. P. I. No. 57886.

61600. CLERODENDRUM COLEBROOKIANUM Walp. Verbenaceae.

A low shrub, 4 to 8 feet high, which, according to Hooker (Flora of British India), has rosy purple or whitish flowers about an inch long, and small blue fruits about a third of an inch in diameter. It is native to Sikkim and Assam, India, at rather low altitudes, and will therefore probably not endure much cold.

61601. DALBERGIA SERICEA G. Don. Fabaceae.

The branches and leaves of this small leguminous tree are covered with reddish brown hairs, and the young leaflets are clothed with silky down. The pale-lilac flowers are in short, compact, axillary clusters.

61596 to 61625—Continued.

61602. DUABANGA SONNERATIODES Buch-Ham. Lythraceae.

A tall, deciduous tree from subtropical regions in northeastern India; the light-brown bark peels off in thin flakes. The gray, soft, yellow-streaked wood, according to Watt (Dictionary of the Economic Products of India), is used extensively in Bengal and Assam for making tea boxes, as it seasons well, takes a good polish, and does not warp.

61603. ELAEOCARPUS SIKKIMENSIS Masters. Elaeocarpaceae.

A handsome, evergreen tree, native to Sikkim, India, with erect racemes of small, white flowers. The sharp-pointed, serrate leaves are about 8 inches long.

61604. ENGELHARDTIA SPICATA Leschen. Juglandaceae.

This Himalayan relative of the walnut is a large, handsome tree, with thick brown bark which contains a large percentage of tannin. The wood shows a beautiful grain and is said not to warp.

61605. GYNOCARDIA ODORATA R. Br. Flacourtiaceae.

This tree, one of the most common in the Chittagong Hills, was long considered to be the true source of chaulmoogra oil, which is now known to be *Taraktogenos kurzii*. The seeds of the former species contain neither chaulmoogric nor hydrocarpic acids, according to J. F. Rock (Bulletin 1057, United States Department of Agriculture). The tree is tall and handsome, with dark-green foliage and pendent branches, and may prove of value as a shade tree for the warmest parts of the United States.

For previous introduction see S. P. I. No. 53121.

61606. HIPTAGE BENGHALENSIS (L.) Kurz (*H. madablota* Guertn.). Malpighiaceae.

A tall, shrubby climber which is found wild throughout India in ravines and moist places. The thick, smooth leaves are 4 to 6 inches long, and the showy, fragrant flowers, with silky white, fringed petals, are in axillary racemes.

61607. HOLARRHENA ANTIDYSENTERICA (Roth) Wall. Apocynaceae.

An attractive, white-flowered little tree found native throughout India. The soft, white wood is largely used, in India, for carved furniture, and the astringent bark is employed medicinally as an antidiysenteric and anthelmintic, according to Watt (Dictionary of the Economic Products of India).

For previous introduction see S. P. I. No. 53579.

61608. LAGERSTROEMIA PARVIFLORA Roxb. Lythraceae.

A tropical timber tree, native to India, closely related to the well-known crape myrtle (*L. indica*). According to Brandis (Forest Flora of India) the white fragrant flowers, half an inch across, are in terminal or axillary panicles, and the wood is tough, elastic, and durable.

For previous introduction see S. P. I. No. 53582.

61596 to 61625—Continued.

61609. *LEUCOSCEPTRUM CANUM* J. E. Smith. *Menthaceae*.

A stout-branched, densely hairy tree, commonly about 30 feet high, with large narrowly ovate leaves, silvery hairy beneath and at times a foot long. The small white or pinkish flowers are in spikes. Native to temperate regions of the Himalayas.

For previous introduction see S. P. I. No. 57888.

61610. *LEYCESTERIA BELLIANA* W. W. Smith. *Caprifoliaceae*.

A small, graceful shrub with opposite, membranous, lance-shaped leaves, and sessile, 2 to 4 flowered spikes of rosy white flowers. It is native in the Sikkim Himalayas near the Nepal border at an altitude of 10,000 feet.

For previous introduction see S. P. I. No. 55686.

61611. *LEYCESTERIA GLAUCOPHYLLA* (Hook. f. and Thoms.) C. B. Clarke. *Caprifoliaceae*.

A slender plant, closely allied to the honeysuckle, with pale-green leaves and bearing, in the early winter, a profusion of pink flowers, in short axillary spikes. It is native to the subtropical Himalayas at an altitude of 5,000 feet.

For previous introduction see S. P. I. No. 55907.

61612. *MEIBOMIA CEPHALOTES* (Roxb.) Kuntze (*Desmodium cephalotes* Wall.). *Fabaceae*.

A tall shrub, with densely silky, acutely angled, zigzag branches and dense umbels of deep-red flowers. It is native to the eastern Himalayas. Cattle and goats are said to be fond of the leaves, according to Watt (*Dictionary of the Economic Products of India*).

61613. *MEIBOMIA GYROIDES* (DC.) Kuntze (*Desmodium gyroides* DC.). *Fabaceae*.

A shrubby leguminous plant, 8 to 10 feet high, from the warmer parts of the central and eastern Himalayas. It has hairy leaves and terminal clusters of red flowers.

61614. *MORUS LAEVIGATA* Wall. *Moraceae*.
Mulberry.

An Indian mulberry which occurs wild and cultivated, though not common, in the lower Himalayas, where, according to Atkinson (*Notes on the Economic Products of the Northwest Provinces*), it forms a medium-sized tree with oval leaves up to 7 inches in length. In early spring the long-cylindrical, yellowish white or pale-purple fruits appear; these are edible, although of a rather insipid-sweet flavor.

For previous introduction see S. P. I. No. 55692.

61615. *MUCUNA MACROCARPA* Wall. *Fabaceae*.

A woody climber, native to northeastern India, which is described by Hooker (*Flora of British India*) as having purple flowers and torulose pods over a foot in length.

61596 to 61625—Continued.

61616. *PICEA MORINDOIDES* Rehder. *Pineaceae*.
Spruce.

A Himalayan spruce of spreading habit, with slender pendulous branchlets. It becomes over 200 feet tall. The young cones are purple, turning to a pale brown when mature.

For previous introduction see S. P. I. No. 58912.

61617. *PIPER ATTENUATUM* Buch.-Ham. *Piperaceae*.

A woody, rambling, tropical plant, native to the warmer parts of the eastern Himalayas. According to Hooker (*Flora of British India*) the female spikes are very slender, lengthening in fruit to about 9 inches. The long-stemmed leaves are roundish, with hairy lower surfaces.

61618. *PORANA RACEMOSA* Roxb. *Convolvulaceae*.
Snow creeper.

One of the most beautiful of the Himalayan plants, described by Watt (*Dictionary of the Economic Products of India*) as occurring in dense masses, climbing over other plants in the jungle, with the dazzling white flowers resembling patches of snow.

61619. *PRUNUS CERASOIDES* D. Don. (*P. puddum* Roxb.). *Amygdalaceae*.

The pendulous flowers are campanulate and deep rosy red. They are said to appear before the foliage, which is a bright, glossy green. The tree, native to the highlands of Burma, is said to endure some frost in its native country. (*Colingwood Ingram, Benenden, Kent, England, in note under S. P. I. No. 57680.*)

61620. *PYGMEUM ACUMINATUM* Colebr. *Amygdalaceae*.

A tropical relative of the peach, native to Bengal, and described by Hooker as an evergreen tree with narrow oblong leaves, racemes of yellow-green flowers, and dark-purple fruits about an inch in diameter.

For previous introduction see S. P. I. No. 50721.

61621. *QUERCUS INCANA* Roxb. *Fagaceae*.
Oak.

A large, evergreen oak from the mountains of eastern India, with bark rich in tannin and acorns which are eaten by the wild animals of the Himalayas.

For previous introduction see S. P. I. No. 50722.

61622. *RUBUS NIVEUS* Thunb. *Rosaceae*.

A subtropical *Rubus*, distributed throughout the temperate Himalayas, Burma, Ceylon, and Java. The berries, which vary in color from red and orange to bluish, are very palatable and are commonly sold to Europeans in the bazaars of British India. Introduced for horticulturists experimenting with small fruits.

61623. *SENECIO SCANDENS* Buch.-Ham. *Asteraceae*.
Climbing groundsel.

An attractive, autumn-flowering composite from the Himalayas, with a woody stem and climbing habit. The yellow flowers are in few-flowered loose panicle-like clusters. Because of its rustic beauty and its habit of flowering in October, this plant is a very desirable ornamental.

61596 to 61625—Continued.

61624. *TERMINALIA TOMENTOSA* (Roxb.) Wight and Arn. Combretaceæ.

The tropical almond (*Terminalia catappa*) is one of the most popular trees in southern Florida, where it is extensively planted as an ornamental shade tree. This closely related Asiatic species, found in many parts of India, is described by Brandis (Forest Flora of India) as a large tree, 80 to 100 feet tall, with hard, leathery leaves 5 to 9 inches long and erect, terminal racemes of dull-yellow flowers. The tree appears to thrive best in India in heavy, binding soils. The dark-brown wood is valued in India for general construction purposes.

For previous introduction see S. P. I. No. 53589.

61625. *THYSANOLAENA MAXIMA* (Roxb.) Kuntze. Poaceæ.

An ornamental, tropical grass, 8 to 10 feet high, which grows wild in the mountainous regions of northern India. The great masses of steel-gray inflorescences give the huge clumps a handsome appearance during about four months of the year.

61626 to 61632.

From Panama. Seeds collected by David Fairchild, Bureau of Plant Industry. Received August 23, 1924.

61626. *CHAMAEDOREA* sp. Phœnicaceæ. Palm.

Several of the palms of this genus are attractive ornamentals. This one is said by Doctor Fairchild to be slender and of graceful habit.

61627. *ELAEIS MELANOCOCCA* Gaertn. Phœnicaceæ. Palm.

A wide-spreading, low palm which grows in damp situations. It is closely related to the African oil palm (*Elaeis guineensis*), and a clear oil is extracted from the kernels in small quantities by the natives, who prize it highly for cooking.

For previous introduction see S. P. I. No. 57801.

61628. *INGA RUFESCENS* Benth. Mimosaceæ.

A tropical tree with acacialike foliage and small heads of white flowers with showy red stamens. Native to Panama.

61629. *MANICARIA SACCIFERA* Gaertn. Phœnicaceæ. Palm.

Unlike most palms, this Brazilian species has entire leaves, which become about 30 feet in length and 5 feet in width. The trunk is erect, ringed, and unarmed, and 15 to 20 feet high. The natives of Brazil use the immense leaves of this palm for thatching their huts and also for making a coarse cloth.

For previous introduction see S. P. I. No. 45087.

61630. *PRIORIA COPAIFERA* Griseb. Cæsalpiniaceæ.

A large, handsome tree, native to central and northern South America, which yields a resin known commercially as balsam of copaiba, according to Pittier (Plantas Usuales de Costa Rica).

For previous introduction see S. P. I. No. 47998.

61632 to 61632—Continued.

61631. *RHEEDIA LATERIFLORA* L. Clusiaceæ.

The "hatstand tree" is a small tree, about 10 feet high, common in the woods of the island of Trinidad. It is noted for the regularity of its branching, and is frequently cut, fastened in a heavy base, and used as a hatstand.

For previous introduction see S. P. I. No. 45604.

61632. *STERCULIA* sp. Sterculiaceæ.

A number of sterculias are attractive shade trees, adapted for growing in the warmer parts of the United States. This one, sent in from Panama, will be grown for its possible ornamental value.

61633. *ORYZA SATIVA* L. Poaceæ. Rice.

From Manila, Philippine Islands. Seeds presented by H. E. Fernandez. Received September 15, 1924.

Introduced for rice-breeding experiments.

61634 to 61695.

From Union of South Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received August, 1924. Notes by Doctor Shantz.

61634. *AESCHYNOMENE ELAPHROXYLON* (Guill. and Perr.) Taub. (*Hermimiera elaphroxylon* Guill. and Perr.). Fabaceæ. Ambash.

No. 240a. Lake Nyasa. April 22, 1924. Ambash forms the principal tree in the marshy lands and papyrus swamps about the central African lakes and is abundant in the upper Nile region. The plant has light foliage similar to that of the ordinary acacia, but differs in having very large pealike, orange-yellow flowers. It forms at times a trunk 10 inches in diameter, and the wood is exceedingly light, a log 10 feet long weighing only a few pounds. Along the upper Nile it is used extensively in making rafts and huts, and should be valuable in a great many ways.

61635. *ALOE ZEBRINA* Baker. Lillaceæ.

No. 416. Near Nyamandslova, Southern Rhodesia. June 12, 1924. An aloe, grown on swamp land, which blooms during the drought period. The very showy flower spike rises from a relatively small rosette.

61636. *ANTHOSCHMIDTIA* sp. Poaceæ. Grass.

No. 245. April 23, 1924. Mixed grass seed from Monkey Bay, Nyasaland. All are sand grasses, grown in a relatively arid country.

61637. *ARISTIDA* sp. Poaceæ. Grass.

No. 381. Bembezi, Southern Rhodesia. June 10, 1924. Native grass used for hay.

61638. *ASPARAGUS* sp. Convallariaceæ.

No. 344. Blantyre. May 21, 1924. An ornamental asparagus.

61639. *BABIANA* sp. Iridaceæ.

No. 442. Bathoen, Bechuanaland. June 16, 1924. From semiarid grasslands. Attractive iridaceous flowers. The corms are eaten by baboons.

61634 to 61695—Continued.

61640. *CITRULLUS VULGARIS* Schrad. Cucurbitaceæ. Watermelon.

No. 409. Tjolotjo, Southern Rhodesia. June 12, 1924. Tsama melon, found growing under native conditions, furnishes water for travelers and wild game in the Kalahari Desert. It maintains itself in a wild state. Every effort should be made to establish this plant in the Southwest, where it would increase the value of the native range. It might also do well at the edge of the large sand-dune areas in California, Arizona, and New Mexico.

61641. *CLEMATIS* sp. Ranunculaceæ.

No. 334. Portuguese East Africa, between M'Khoma and Zomba. May 12, 1924. An herbaceous clematis, with greenish white flowers and white fruit clusters, which grows about 3 feet high, probably from a perennial root. Abundant in grasslands which are burned over each year at the end of the dry season.

61642. *COMBRETUM PRIMIGENUM* Marloth. Combretaceæ.

No. 406. Tjolotjo, Southern Rhodesia. June 11, 1924. A fine ornamental tree for a semiarid country. The wood is also valuable.

61643. *COPAIVA COLEOSPERMA* (Benth.) Kuntze (*Copaifera coleosperma* Benth.). Casalpiniaceæ.

No. 417. Victoria Falls, Southern Rhodesia. June 13, 1924. A beautiful, evergreen tree of excellent form and foliage, reaching a height of 60 feet. The wood is especially valuable and is known as bastard teak or occasionally known as Rhodesia teak. The native names are *um-tshidi* and *m'sibi* (or *m'zoule*).

For previous introduction see S. P. I. No. 49238.

61644. *COPAIVA MOPANE* (Kirk) Kuntze. Casalpiniaceæ.

No. 414. Tjolotjo, Southern Rhodesia. June 12, 1924. One of the most valuable timber trees, because of the resistance of the wood to attacks of termites. It grows in a semiarid country, where water may stand over the soil after heavy rains. The leaves are heavily lacquered and deep shiny green. The seeds look very much like the leaves. Native names are *mopani*, *ili pani*, *muwanga*, or *mu wani*.

61645. *CRACCA* sp. Fabaceæ.

No. 341. Between Zomba and Nyasaland. May 13, 1924. A small-podded legume, abundant in the lowlands.

61646. *CROTALARIA* sp. Fabaceæ.

No. 343. Blantyre, Nyasaland. May 21, 1924. A large-podded *Crotalaria*.

61647 and 61648. *FLACOURTIA INDICA* (Burm. f.) Merr. (*F. ramontchi* L'Herit.). Flacourtiaceæ. Ramontchi.

61647. No. 199. April 12, 1924. Fruits small like red-fleshed plums but with several seeds. This sample was found in the market at Dar es Salaam.

61648. No. 390. Tjolotjo, Southern Rhodesia. June 11, 1924. A small plum-like fruit, with several seeds. The fruit is very good when eaten out of hand and excellent for making jelly. The tree is very attractive and would make a good ornamental in the semiarid South and West. It could also be used as a hedge plant.

61634 to 61695—Continued.

61649. *GLADIOLUS* sp. Iridaceæ.

No. 328. Near Didza, Nyasaland. May 12, 1924. A large red mottled variety.

61650. *GLADIOLUS* sp. Iridaceæ.

No. 347. M'Khoma, Nyasaland. May 12, 1924. This is one of the best native types. The plant is tall, and the reddish flowers are of good size.

61651. *GREWIA* sp. Tiliaceæ.

No. 425. Mochudi, Bechuanaland. June 15, 1924. The so-called "Somali" fruit. It is a small bush growing in a semiarid country.

61652. *GREWIA* sp. Tiliaceæ.

No. 426. Mochudi, Bechuanaland. June 15, 1924. A small, one-seeded fruit from a semiarid desert tree.

61653 to 61673. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceæ. Sorghum.

61653 to 61656. Nos. 235 to 238. Between Blantyre, Nyasaland, and the Zambezi. April 22, 1924. Here the natives grow a very tall form of sorghum with large spreading open heads. It is remarkably uniform in height and shape of inflorescence, but there are differences in color. These four heads represent range in type.

61653. No. 235. 61655. No. 237.

61654. No. 236. 61656. No. 238.

61657 to 61667. Nos. 348 to 353. May 13, 1924. The sorghum grown by the natives in this section is a very tall, open-headed type. I have seen none of the closed-head types in Nyasaland. The following numbers, although similar in size of plant and shape of head, differ in color of seed and hull. They may be accepted as typical of the sorghums grown in this section of Africa.

61657. No. 348. Zomba. Light-red, white-grained type.

61658. No. 349. White hull and seed.

61659. No. 350. Dull-red hull and tan seed.

61660. No. 351. Pink hull and white seed.

61661. No. 352. Deep-red hull and white seed.

61662. No. 353. Similar to No. 352 [S. P. I. No. 61661].

61663. No. 354. This type has a darker hull than that of No. 352 [S. P. I. No. 61661].

61664. No. 355.

61665. No. 356. Very much like No. 352 [S. P. I. No. 61661].

61666. No. 357. Very much like No. 354 [S. P. I. No. 61663].

61667. No. 358. Magenta hull and light seed.

61668 to 61672. Nos. 420 to 424. June, 1924. Types of sorghum grown by the Bakagathala tribe in the semiarid region of Bechuanaland. Sorghum constitutes their principal food.

61634 to 61695—Continued.

61668. No. 420. Mochudi, Bechuanaland. June 15, 1924. Similar to 421 [S. P. I. No. 61669], but known as *Sefoke*.
61669. No. 421. Known as *Noanya-anthana*, a good late variety.
61670. No. 422. Typical Mabele, known as *Sekamfokane*.
61671. No. 423. One of the best types, known as *Segaolane*.
61672. No. 424.
61673. No. 460. June, 1924. A sample of the Kafir corn.
61674. *HOLCUS SORGHUM VERTICILLIFLORUS* (Steud.) Hitchc. Poaceæ. Tabucki grass.
- No. 306. May 8, 1924. Wild sorghum variety, very abundant on lowlands above southern end of Nyasaland, Domira Bay.
61675. *HYPERICOPHYLLUM* sp. Asteraceæ.
- No. 262. Livingstonia. April 23, 1924. A beautiful composite with deep, rich-red flowers.
61676. *MANISURIS* sp. Poaceæ. Grass.
- No. 307. Domira Bay, May 8, 1924. A very tall rank grass abundant on the lowlands about Lake Nyasa, especially on the black cotton soils, where it grows from 6 to 8 feet high and produces a heavy crop of seed.
61677. *ORYZA SATIVA* L. Poaceæ. Rice.
- No. 201. Beira, Portuguese East Africa. April 20, 1924. A very low-growing, small-seeded variety. Grown at Beira on drier land. It has a peculiar odor and may be valuable.
61678. *PANICUM MADAGASCARIENSE* Spreng. Poaceæ. Grass.
- No. 202. Beira, Portuguese East Africa. April 20, 1924. A small grass, very attractive and valuable as an ornamental.
61679. *PANICUM* sp. Poaceæ. Grass.
- No. 388. Tjolotjo. June 11, 1924. One of the grasses which is most successful in the semiarid agriculture of the eastern Kalahari.
61680. *POGONARTHRIA* sp. Poaceæ. Grass.
- No. 418. Tjolotjo, Southern Rhodesia. June 11, 1924. Mixed grass seed of the type which forms the grass cover on the eastern edge of the Kalahari Desert.
61681. *SESAMUM ANGOLENSE* Welw. Pedaliaceæ.
- No. 386. Tjolotjo, Southern Rhodesia. June 11, 1924. This appears to be a smaller flowered type of wild sesame than is found in Central Africa.
61682. *SOLANUM TUBEROSUM* L. Solanaceæ. Potato.
- No. 293. Livingstonia. April 30, 1924. Brought from Scotland some years ago and grown on the highlands above Nyasaland.
- 61683 and 61684. *SORGHUM VERSICOLOR* Anderss. Poaceæ. Black Sudan grass.
61683. No. 239. April 23, 1924. A rather small plant about 3 to 6 feet high, abundant along the road south of Fort Johnston, Nyasaland.

61634 to 61695—Continued.

61684. No. 340. May 13, 1924. A dark-seeded plant resembling Sudan grass, abundant along roadways at the southern end of Lake Nyasa. The heads are dark, drooping gracefully, and the seeds shatter easily.
61685. *SPOROBOLUS* sp. Poaceæ. Grass.
- No. 208. Beira, April 22, 1924. The golf course at Beira is made up of this grass. When closely clipped it makes a good turf. Most of the golf course is near tidalwater level.
61686. *STERCULIA* sp. Sterculiaceæ.
- No. 240. Fort Johnston. April 22, 1924. A large white-barked tree with very soft wood. The leaves are somewhat like those of the cotton plant. The pods are large, resembling those of *Asclepias*, but with stinging hairs around the aril, which is bright red. It is sometimes called the "fever" tree and is locally known as N'goza. The seeds are said to be picked to form a powder used as snuff.
61687. *TERMINALIA SERICEA* Burchell. Combretaceæ.
- No. 407. Tjolotjo, Southern Rhodesia. June 11, 1924. A well-shaped ornamental tree, suitable for a semiarid country; the yellow wood is of excellent quality and the most valued of any in the region. Bark cloth of poor quality is made from the bark. The tree is known under the native names of *Uhangwe*, *M'Susu*, *M'Tarataka*, etc.
61688. *THEMEDA* sp. Poaceæ. Grass.
- No. 443. Ramanthlava, Bechuanaland. June 16, 1924. Mixed grass seed from the acacia-tall-grass belt, which is probably the most successful grazing region of Africa.
61689. *TRADESCANTIA* sp. Commelinaceæ.
- No. 263. Livingstonia. April 27, 1924. A very delicate variety with showy flowers; it should be of value as an ornamental.
- 61690 to 61692. *TRICHOLAENA ROSEA* Nees. Poaceæ. Natal grass.
61690. No. 295. April 30, 1924. Mixed grass seed from the hills above Livingstonia.
61691. No. 305. Koto Koto, Nyasaland. May 7, 1924. A rather large type, abundant west of Lake Nyasa on the lowlands.
61692. No. 319. M'Khoma, Nyasaland. May 12, 1924. A grass grown in native sod.
61693. *TRITICUM AESTIVUM* L. (T. *vulgare* Vill.). Peaceæ. Common wheat.
- No. 294. Livingstonia. April 30, 1924. Wheat grown on the highlands above Nyasaland. It yields fairly well here. Much of the flour used here is produced on the highlands.
- 61694 and 61695. *VIGNA SINENSIS* (Torner) Savi. Fabaceæ. Cowpea.
- Nos. 389 and 419-b. Tjolotjo, Southern Rhodesia. June 12, 1924. An important crop at the edge of the desert. There are many types grown in the same field. An effort was made to include all types in the sample.
61694. No. 389. 61695. No. 419-b.

61696 to 61725.

From Leningrad, Russia. Seeds presented by Prof. N. I. Vavilov, Director of the Bureau of Applied Botany and Plant Breeding. Received September 24, 1924. Notes by Professor Vavilov.

61696 to 61714. *GOSSYPIMUM* spp. Malvaceae. Cotton.

61696. *GOSSYPIMUM* sp.

King.

61697. *GOSSYPIMUM* sp.

61698. *GOSSYPIMUM* sp.

No. 705.

61699. *GOSSYPIMUM* sp.

Minus.

61700. *GOSSYPIMUM* sp.

No. 755.

61701. *GOSSYPIMUM* sp.

Guzomochnii Bokhara.

61702. *GOSSYPIMUM* sp.

No. 69. Turkestan Selection Station.

61703. *GOSSYPIMUM* sp.

No. 48.

61704. *GOSSYPIMUM* sp.

No. 182.

61705. *GOSSYPIMUM* sp.

No. 182. Turkestan Selection Station. Clear rowed.

61706. *GOSSYPIMUM* sp.

Naviotzkii.

61707. *GOSSYPIMUM* sp.

No. 48.

61708. *GOSSYPIMUM* sp.

Fergan.

61709. *GOSSYPIMUM* sp.

No. 180.

61710. *GOSSYPIMUM* sp.

No. 750.

61711. *GOSSYPIMUM* sp.

No. T-509.

61712. *GOSSYPIMUM* sp.

No. 455-A.

61713. *GOSSYPIMUM* sp.

No. 452-A.

61714. *GOSSYPIMUM* sp.

Weber.

61715 and 61716. *HORDEUM VULGARE PAL-LIDUM* Seringe. Poaceae.

Six-rowed barley.

61715. No. 62.

61716. No. 63.

61717 to 61719. *ORYZA SATIVA* L. Poaceae. Rice.

61717. No. 10. *Bokhara.*

61718. 16755-1922. Turkestan Republic. *Shala.*

61719. 170-F. Turkestan. *Shala.*

61696 to 61725—Continued.

61720. *SECALE CEREALE* L. Poaceae. Rye. Abkhaz Republic.

61721. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

360. 1174. No. 22.

61722 to 61724. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

61722. No. 50.

61723. [No notes.]

61724. From Abkhaz.

61725. *ZEA MAYS* L. Poaceae. Corn. From Abkhaz.

61726 to 61737. *MEDICAGO SATIVA* L. Fabaceae. Alfalfa.

From South America. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61726. Near Lampa, Chile. May 13, 1924. Provence alfalfa, produced on the estate of Señor Marticorena, who is a very large producer of this seed. He procured the seed from France a few years ago and has made every effort to keep it pure.

61727. Santa Ines, Chile. June 5, 1924. Seeds from an unusually vigorous plant found on the estate of Salvador Izquierdo.

61728. June 1, 1924. From the Huasco Valley, about 12 miles from Alta del Carmen. Seed coming from this district, which is very warm, is regarded very highly.

61729. April 7, 1924. Procured from Bridger Bros., Buenos Aires, and said to have been produced in the northern part of Argentina, where the climate is very mild.

61730. March 31, 1924. Seeds collected from a plant near Lupan de Cuyo, Mendoza, Argentina.

61731. May 31, 1924. From near Mendoza, Argentina.

61732. May, 1924. Pao F. C. Oeste, Pampa, Argentina.

61733. March 26, 1924. Seeds produced on the estate of the Chapman brothers, near Enrique Lavalle, in the western part of the Province of Buenos Aires.

61734. April 7, 1924. From Colonia Alvear, Mendoza, Argentina, a region comparatively free from frost.

61735. June 7, 1924. Seeds obtained from Williamson & Co., Santiago, Chile. This seed is said to have been grown in the Huasco Valley, and many of the alfalfa growers in Chile use seed only from this source, as they claim that it produces more and better hay than seed from other parts of Chile.

61736. June 20, 1924. Purchased from the seed store at Mollendo, Peru. This seed, which should be similar to our Smooth Peruvian, is said to have been produced at Candarava, about 30 leagues from Mollendo, at a high altitude.

61737. Pisco, Peru. June 21, 1924. Purchased from the market. Probably grown near the coast and should be very similar to Hairy Peruvian.

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March 28, 1927

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This inventory is a contribution from

<i>Bureau of Plant Industry</i>	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Office of Foreign Plant Introduction</i>	DAVID FAIRCHILD, <i>Senior Agricultural Explorer, in Charge</i> .

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UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 81



Washington, D. C.

Issued April, 1927

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM OCTOBER 1 TO DECEMBER 31, 1924 (S. P. I. NOS. 61738 TO 62230)

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INTRODUCTORY STATEMENT

In July, 1924, P. H. Dorsett, of the Office of Foreign Plant Introduction, and his son, J. H. Dorsett, were detailed for agricultural exploration work in northern China. Shipments of plant material which they collected began to arrive in Washington in October, 1924, the greater part coming from the vicinity of Peking, in the Province of Chihli. The lists of the Dorsetts' collections in northern China take up a conspicuous part of this inventory and include both seeds and scions of a large number of fruits, such as peaches, pears, apples, persimmons, apricots, grapes, and quinces, also walnuts, chestnuts, hazelnuts, various vegetables, and a number of woody and herbaceous ornamentals.

The collection of varieties of *Diospyros kaki* (Nos. 61837 to 61842) obtained by Mr. Dorsett in the vicinity of Peking, China, may include valuable additions to the list of excellent varieties previously introduced and now in the trade in this country, such as the nonastringent Fuyu (S. P. I. No. 26491) and the Tamopan (S. P. I. No. 16921), an excellent keeper.

While on his way to carry on agricultural explorations in the East Indies, David Fairchild of this office spent several days at the Royal Botanic Gardens, Kew, England, and also at Aldenham House, the estate of Hon. Vicary Gibbs, at Elstree, Herts, England. At the Royal Botanic Gardens Doctor Fairchild procured seeds of the dove tree (*Davidia involucrata vilmoriniana*, No. 62022). This is a handsome Chinese relative of the dogwood, and only one specimen is known to be in cultivation in this country. At Aldenham House there has been gathered together a remarkable collection of hardy rare trees and shrubs, mostly from eastern Asia, and seeds of a number of these were obtained by Doctor Fairchild (Nos. 61972 to 61996).

In the preceding inventory (No. 80) mention was made of the agricultural explorations being conducted in Argentina and Chile by H. L. Westover, of the Office of Forage Crops. During this period Mr. Westover was still abroad, and he sent in not only a number of local strains of alfalfa but also seeds of a number of native forage plants and grasses (Nos. 62060 to 62073, 62075 to 62092).

Of similar interest to Mr. Westover's shipments is a large collection of grasses, mostly native to southern South America, presented by the Federación Rural, Montevideo, Uruguay (Nos. 62031 to 62059). These grasses will

undoubtedly be of great interest to agronomists attempting to develop strains of forage plants suitable for parts of the Southern States.

Among the shipments sent from northern China by Mr. Dorsett, whose work is mentioned above, were tubers of *Stachys sieboldi* (No. 61897). This species has been introduced a number of times previously and has been grown with satisfactory results. However, its tubers are small, and for this reason it does not have the appeal to growers that it might otherwise. It resembles closely our native *Stachys floridana* of the South, and should be given serious attention by plant breeders along with the latter species.

Seeds of *Arachis nambyquarae* (No. 62099), introduced in 1924, have since been grown at several of our southern experiment stations, where the plants have proved to be well adapted for growing in their new environment. The large seeds of this Brazilian relative of our common peanut make it of special interest for general experimental work.

Actinidia venosa (No. 61803) may be of value only as an ornamental, but it is a welcome addition to the Actinidias now grown in this country. These include *A. arguta*, which is hardy as far north as Massachusetts and which bears an edible fruit about an inch long, and *A. chinensis*, which bears a much larger edible fruit but which is adapted for growing only in the southern half of the United States.

The present popularity of the Japanese flowering cherries in this country is due in large measure to the fact that this office has been introducing, for several years, promising varieties from the Orient. Capt. Collingwood Ingram, of Benenden, Kent, England, who has a large private collection of flowering cherries, has presented plants of a variety which he has called Kojima (*Prunus serrulata*, No. 62101). This variety, which originated in his garden, has very large, semidouble, pure white flowers borne in drooping corymbs, and should prove a real addition to our present collection.

Specialists in the United States working with strawberries and potatoes will be interested in a collection of wild strawberry plants (*Fragaria* sp., No. 61885) and types of wild potatoes (*Solanum* spp., Nos. 61886 to 61892) made by Elbert E. Reed, of the Instituto Agrícola Bunster, on the island of Chiloe, off the coast of Chile. Many of the cultivated strawberries of the American trade are derived in part from the Chiloe strawberry (*Fragaria chiloensis*), which is native to this region.

The botanical determinations of seeds introduced have been made and the nomenclature determined by H. C. Skeels, and the descriptive notes have been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,

Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., September 17, 1926

INVENTORY¹

61738 and 61739.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December, 1924.

61738. *AMPELOPSIS ACONITIFOLIA* Bunge. Vitaceæ.

No. 904. Near Laochun. October 10, 1924. The bright-blue fruits make this vine a good ornamental. (Dorsett.)

61739. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceæ. Peach.

No. 761. Peking. October 6, 1924. Seeds of a domesticated peach. (Dorsett.)

61740. *PERSEA AMERICANA* Mill. (*P. gratissima* Gaertn. f.). Lauraceæ.

Avocado.

Fruits from the Plant Introduction Garden, Miami, Fla. Received at Washington, November 20, 1924.

A cross between the Collinson and Trapp avocados, made at the Plant Introduction Garden, Miami, February, 1921, by Edward Simmonds. Fruited first time this year [1924].

Fruits about 4 inches long and 3½ inches wide, roundish obovate, slightly oblique; stem short, thick, inserted at a slight angle; cavity small, shallow, wrinkled; apex obliquely flattened, slightly depressed at stigmatic point; surface smooth, light green; dots numerous, yellowish, conspicuous; skin of medium thickness, adhering rather closely to the flesh; flesh creamy yellow, greenish near skin, smooth, buttery, with rich, nutty flavor and no fiber; seed large, tight in the cavity, free from seed coats.

61741. *CAMPANULA* sp. Campanulaceæ.

Bellflower.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 8, 1924.

No. 712. October 10, 1924. Seeds of a plant with very pretty purple, bell-shaped flowers, collected along the trail from the Ming tombs to Silver Mountain. (Dorsett.)

61742 to 61746.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received December 24, 1924.

61742. *ACER OSMASTONI* Gamble. Aceraceæ. Maple.

A large Himalayan maple, described (Kew, Bulletin of Miscellaneous Information, 1908, p. 446) as a tree up to 100 feet tall, growing wild in Sikkim, India, at an altitude of about 7,000 feet. The leaves, 1 to 3 lobed, are papery and about 5 inches long.

61743. *ACER STACHYOPHYLLUM* Hiern. Aceraceæ. Maple.

A small maple, native to Sikkim, India, at an altitude of 10,000 feet.

61744. *ALANGIUM ALPINUM* (C. B. Clarke) Smith and Cave. Cornaceæ.

A deciduous tree, about 40 feet high, native to the eastern Himalayas and related to the dogwood. The white flowers are in lax 3-flowered, axillary clusters, and are succeeded by black fruits.

61745. *DECAISNEA INSIGNIS* (Griffith) Hook. f. and Thoms. Lardizabalaceæ.

An upright, sparingly branched shrub, much resembling a large-leaved sumac, found in the eastern Himalayas. The leaves, often 3 feet long, are made up of 13 to 25 elliptic, acuminate leaflets, bright green above and slightly glaucous beneath. The racemes of pendulous, greenish flowers resemble those of a yucca, but are smaller. These are followed by edible, yellow fruits, 3 to 4 inches long and about 2 inches thick, filled with a whitish pulp and black seeds.

61746. *GAULTHERIA FRAGRANTISSIMA* Wall. Ericaceæ.

A very fragrant evergreen shrub or small tree found in the mountains of India from Nepal eastward to Bhutan. In summer it is loaded with white or pinkish flowers, which are followed by beautiful racemes of blue-purple fruits.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature. It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

61747 and 61748. *LILIUM* spp. Lily.

From Goring by Sea, Sussex, England. Bulbs presented by Maj. F. C. Stern. Received December 30, 1924.

61747. *LILIUM FARRERI* Turrill.

From a packet of mixed seeds collected in China by the well-known botanical explorer, Reginald Farrer, there was grown this handsome lily, described in Curtis's Botanical Magazine (pl. 8847) as having erect stems, nearly 3 feet in height, and numerous narrow leaves scattered along the entire stem. The relatively small but fragrant flowers, white with purple spots, are terminal and either solitary or in loose 6-flowered umbels. This lily has proved hardy in the mild-wintered region of southeastern England.

61748. *LILIUM CENTIFOLIUM* Stapf. Lily.

This Chinese lily was originally discovered by Reginald Farrer, according to the Botanical Magazine (pl. 8960); Mr. Farrer found it growing in a little garden at Siku, Kansu, in 1914. The stem, densely leafy and somewhat glaucous, is up to 7 or 8 feet in height, arising from a slightly depressed bulb about 3 inches in diameter. The numerous leaves are dark green above and paler below, linear or linear-lanceolate, and up to 18 inches long. The sweet-scented flowers, 6 to 18 in number, are arranged in a short, almost umbellike raceme. The individual flowers are 6 inches long and about 4 inches across the mouth. Within, the perianth is pure white, blending into lemon yellow in the throat; the outer segments are richly flushed with dark purple, while the broader inner segments are greenish with deep, brownish-purple midribs. The anthers are rusty red.

61749 to 61760.

From Kaifeng, Honan, China. Seeds purchased from R. M. Lewis, St. Andrew's School. Received December 20, 1924. Notes by Mr. Lewis.

Collection of seed from the largest grain store in Kaifeng.

61749 and 61750. *PHASEOLUS AUREUS* Roxb. Fabaceæ. Mung bean.

Two varieties of average quality, planted around the 5th of May, and maturing early, or later if dry.

61749. No. 8. *Lü Hui tou* (green gray).61750. No. 7. *Ming Lü tou* (shiny green).61751 and 61752. *PISUM SATIVUM* L. Fabaceæ. Pea.61751. No. 11. *Hua wan* and *huang wan* (mottled and yellow). A variety of average quality, planted during September and maturing in May.61752. No. 12. *Huang wan* (yellow). One of the best varieties; planted in September and maturing in May.61753 to 61758. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.61753. No. 1. *Hei* (black). A variety of average quality, planted about May 5 and maturing in September.61754. No. 2. *Hsiao hei* (small). A variety a little better than the average, planted around May 5 and maturing during September.

61749 to 61760—Continued.

61755. No. 3. *Huang* (yellow). A soy bean of average quality, planted about May 5 and maturing during September.61756. No. 4. *Huang* (yellow). A variety of the best quality, planted about May 5 and maturing during September.61757. No. 5. *Ching* (green, literally "clear"). Of good quality, planted about May 5 and maturing late.61758. No. 6. *Ching* ("clear"). A variety of average quality, planted about May 5 and maturing late.61759 and 61760. *VIGNA SINENSIS* (Torrner) Savi. Fabaceæ. Cowpea.

Varieties of average quality, planted about May 5 and maturing during September.

61759. No. 9. *Pai Chiang* (white kidney).61760. No. 10. *Hung Chiang* (red kidney).61761. *CANARIUM ALBUM* (Lour.) DC. Balsameaceæ.

From Peking, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 6, 1924.

No. 759. October 1, 1924. *Ching Kuo* (green nut). An olive-green and olivelike fruit shipped in to the market from the south. This may be made into a good candied fruit something like citron. (Dorsett.)

61762 to 61766.

From Simla, India. Plants presented by H. E. J. Peake, Khaltoo Fruit Orchards, Solan, through Walter T. Swingle, Bureau of Plant Industry. Received October 2, 1924.

61762. *BELOU MARMELOS* (L.) Lyons (*Aegle marmelos* Correa). Rutaceæ. Bel.

The bel is a small, handsome tree, closely related to the genus *Citrus*; it is native to northern India, but is widely cultivated throughout India, Siam, and Indo-China. It is often spiny and has deciduous, trifoliate leaves. The greenish, globular fruit, usually about 4 inches in diameter, has a hard shell which incloses greenish, aromatic pulp of sweetish flavor. Sherbets are made from the mashed pulp, and also a beverage. In northern India the bel is said to endure a temperature of 20° F. without injury.

61763. *CITRUS* sp. Rutaceæ.

This is native to the Simla Hills. (Peake.)

61764. *CITRUS* sp. Rutaceæ.61765. *HESPERETHUSA CRENULATA* (Roxb.) Roemer. Rutaceæ.

This is a shrub or small tree growing in dry situations in India, sometimes at a height of 4,000 feet. The fruits are very small, but occasionally used as a condiment by the natives. The wood is hard and suitable for parts of machinery where great strength and toughness are required. This plant belongs to the orange family and is introduced primarily in connection with experiments now in progress in the breeding of new types of citrus fruits and stocks for the same.

61762 to 61766—Continued.

61766. *TOONA CILIATA* Roemer (*Cedrela toona* Roxb.). Meliaceae. Toon tree.

A large Himalayan tree, 50 to 80 feet high, with nearly evergreen foliage and white, honey-scented flowers. The wood, which is used for furniture, carvings, and for making cigar boxes, is very durable and is not attacked by termites.

61767. *CORDEAUXIA EDULIS* Hemsl. Caesalpiniaceae. Yeheb nut.

From Kew, Surrey, England. Plants presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received October 3, 1924.

The Yeheb nut is a leguminous shrub or small tree which grows wild in the great semiarid region of Italian Somaliland, known as the "Haud," where its highly nutritious nuts are a staple food of the Somali tribes who inhabit the region, and are offered in the markets on the Somali coast. The thick, evergreen leaves of this shrub are about 4 inches long, with usually four pairs of leaflets, and the crisp, leathery pod is slightly over 2 inches long. In composition the Yeheb nut closely resembles the chestnut and is comparable to it in food value. The region where the shrub is found indicates that while it should prove very drought resistant it is not likely that it will stand frost, although tests are necessary to determine this point.

61768. *MEDICAGO SATIVA* L. Fabaceae. Alfalfa.

From Cuenca, Ecuador. Seeds presented by E. Malo A., British vice consulate. Received October 7, 1924.

This is a sample of the alfalfa we grow in this district; we have known single plants to become over 3 feet high. We believe this may be Peruvian alfalfa. (Malo.)

61769. *PSIDIUM GUAJAVA* L. Myrtaceae. Guava.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received October 7, 1924.

A very fine large guava with golden-green skin and yellow pulp. The flavor is so sweet that the addition of sugar is unnecessary. The plant is vigorous and prolific. (Towns.)

61770. *ECHINOCHLOA HOLCIFORMIS* (H. B. K.) Chase. Poaceae. Grass.

From the city of Mexico, Mexico. Seeds presented by Arthur Stockdale. Received October 7, 1924.

An erect perennial grass, 6 feet or more high, from humid, mountainous regions of Mexico. Introduced for testing as forage.

61771. *MAGNOLIA CAMPBELLII* Hook. f. and Thoms. Magnoliaceae.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received October 7, 1924.

According to Curtis's Botanical Magazine (pl. 6793), this is a beautiful, deciduous magnolia from the Himalayas, where it ascends to 8,000 feet above sea level. It reaches a height of 80 feet, has very dark bark, large elliptical dark-green leaves, and white to purple flowers 10 inches in diameter. This magnolia has flowered freely in southern France and Italy.

For previous introduction see S. P. I. No. 55688.

61772. *ARACHIS HYPOGAEA* L. Fabaceae. Peanut.

From Potchefstroom, Union of South Africa. Seeds presented by F. C. Fellschop, School of Agriculture, Potchefstroom, through J. H. Beattie, Bureau of Plant Industry. Received October 9, 1924.

Locally grown seeds introduced for cultural tests and comparison with American-grown varieties.

61773. *SOLANUM OPACUM* A. Br. and Bouche. Solanaceae.

From Sydney, New South Wales. Seeds presented by George Valder, undersecretary and director, Department of Agriculture. Received October 9, 1924.

An annual Australian Solanum which is closely related to the nightshade (*S. nigrum*) and appears to have shown some value as a fodder plant, according to the Agricultural Gazette of New South Wales for October 31, 1921. No harmful effects on stock were observed after numerous feeding tests.

61774. *AFZELIA BREIYI* Wildem. Caesalpiniaceae.

From Brussels, Belgium. Seeds presented by Dr. Esmond Leplae, Director General of Agriculture. Received October 1, 1924.

Among the recent additions to the flora of the Belgian Congo is a leguminous tree whose seeds contain an oil promising both as an edible oil and for illumination. The tree is described (Bulletin Agricole du Congo Belge, March, 1923) as having an ultimate height of 100 feet, with finely cracked bark and handsome, bluish-green pinnate foliage. The kidney-shaped pods, about 8 inches long and 5 inches wide, contain reddish-brown seeds $1\frac{1}{2}$ inches long. The oil obtained from these seeds is light brownish yellow, with a sweet, agreeable flavor resembling that of some types of olive oil.

61775. *CORNUS CONTROVERSA* Hemsl. Cornaceae. Giant dogwood.

From Jamaica Plain, Mass. Seeds collected by B. Y. Morrison, Bureau of Plant Industry. Received October 17, 1924.

This Chinese dogwood is one of the most striking of the genus; in its native home it sometimes becomes a tree 60 feet in height with a trunk 7 feet in girth. The numerous long branches extend at right angles to the trunk, with the lowest sometimes touching the ground. The white or slightly yellowish flowers are in flat clusters 6 or 7 inches in diameter, appearing from late May to early June. The black shining fruits which follow are eaten by the birds as fast as they ripen.

61776 and 61777.

From Nairobi, Kenya Colony, Africa. Seeds presented by S. Battiscombe, conservator of forests, Forest Department. Received October 17, 1924.

61776. *BRACHYLAENA HUTCHINSII* Hutchinson. Asteraceae.

The hard, white timber of this tall East African tree is durable, easily worked, and not subject to attack by termites. In height the tree reaches 90 to 100 feet; the branches are upright and are confined to the upper fourth of the trunk.

61776 and 61777—Continued.

61777. *OLEA CHRYSOPHYLLA* Lam. Oleaceae.

A small East African relative of the cultivated olive: its chief ornamental value lies in the golden color of the under surfaces of the leaves.

61778. *AGATI GRANDIFLORA* (L.) Desv. (*Sesbania grandiflora* Poir.). Fabaceae.

From Summit. Canal Zone. Seeds presented by Holger Johansen, Plant Introduction Garden. Received October 17, 1924.

A small, rapid-growing, soft-wooded tree, 15 to 20 feet in height, with pinnate leaves and large pendulous white flowers, followed by long, sickle-shaped pods. The fleshy petals are used in curries and soups in the Indian Archipelago, where this tree is native. The leaves and young shoots are sometimes used as fodder.

For previous introduction see S. P. I. No. 57079.

61779. *RUBUS* sp. Rosaceae.

Blackberry.

From Kew, England. Seeds presented by Dr. J. Burtt Davy, Royal Botanic Gardens. Received November 5, 1924.

Selected Dartmoor (Devonshire) blackberries. The berries are large, full, and of exceptionally good flavor. Found growing wild in a hedge at Bag Tor, Ilstington, South Devon, at 800 feet altitude. (Burtt Davy.)

61780 and 61781. *SOLANUM* spp. Solanaceae.

From Wolverhampton, England. Tubers presented by F. W. Keay. Received October 24, 1924.

Of possible value for breeding purposes.

61780. *SOLANUM* sp.

A seedling of unknown parentage.

61781. *SOLANUM DEMISSUM* × *TUBEROSUM*. Potato.

61782 to 61785.

From Argentina. Seeds presented by A. K. Bulley, Ness, Neston, England. Received October 1, 1924.

These seeds were sent to Mr. Bulley by W. T. Goethe, who collected them while in Argentina.

61782 to 61784. *BERBERIS* spp. Berberidaceae.

61782. *BERBERIS* sp.

No. 191. A yellow-flowered evergreen shrub. (Goethe.)

61783. *BERBERIS* sp.

No. 242.

61784. *BERBERIS* sp.

No. 271. Large fruits, of good color. (Goethe.)

61785. *NOTHOFAGUS BETULOIDES* (Mirb.) Oerst. Fagaceae.

No. 62. One of the principal trees which make up the dense, dark forests of Tierra del Fuego is this evergreen species, according to the Gardeners' Chronicle (ser. 3, vol. 33). In favorable localities it becomes very large. It is closely related to the beech (*Fagus* spp.), but has small evergreen leaves.

61786 to 61793.

From Ness, Neston, England. Seeds presented by A. K. Bulley. Received October 1, 1924.

61786. × *GEUM BORISII* Kellerer. Rosaceae.

According to a note in the *Allgemeine Botanische Zeitschrift* (vol. 12, p. 91) this interesting hybrid is the result of a cross between *Geum reptans* L. and *G. bulgaricum* Panc. It was discovered by J. Kellerer on Mount Rilo, Bulgaria, and has pendent, yellow flowers.

61787. *MECONOPSIS PSEUDOINTEGRIFOLIA* Prain. Papaveraceae.

A stemless hairy plant from southwestern Tibet, China, with narrow leaves and one-flowered scapes; the flowers are bright yellow and up to 3 inches in diameter.

For previous introduction see S. P. I. No. 55302.

61788. *MECONOPSIS SINUATA* Prain. Papaveraceae.

Var. *latifolia*. A horticultural form which is generally similar to *Meconopsis aculeata*, but the leaves are less lobed, and the stigma is deep pink or orange rather than green. The plant is 1 to 4 feet high, with spreading prickles, oblong leaves about 6 inches long, and blue flowers. Native to the Himalayas.

61789 to 61792. *PRIMULA* spp. Primulaceae.

61789. *PRIMULA CHIONANTHA* Balf. and Forr. Primrose.

Many interesting and attractive primroses have been found in Yunnan, China; the one here considered was found in that province by G. Forrest, who collected it on the Chungtien Plateau at an altitude of 13,000 feet. It is described in Curtis's Botanical Magazine (pl. 8816) as a stout herbaceous plant 1 to 2 feet high, with blunt, narrowly oval leaves, sulphur mealy beneath, and clusters of white flowers borne in a many-flowered umbel at the apex of a stout scape. It appears to thrive best in rich, moist soil and has proved perfectly hardy at Kew, England.

61790. *PRIMULA COCKBURNIANA* Hemsl. Primrose.

A glabrous primrose from western China, with membranous, oblong leaves and yellow flowers borne on a slender scape a foot or more in height.

61791. *PRIMULA INVOLUCRATA* Wall. Primrose.

A Himalayan primrose with leathery, oval leaves and a long, slender scape bearing many-flowered umbels of white flowers.

61792. *PRIMULA* sp. Primrose.

Red Hugh. A hybrid of *Primula beesiana*. (Bulley.)

61793. *ROSCOEIA CAUTLEOIDES* Gagn. Ziniberaceae.

A perennial herbaceous, gingerlike plant, 9 to 12 inches high, native to China, with thick, fleshy roots, irislike leaves, and primrose-yellow flowers borne on many-flowered scapes.

61794. RIBES sp. Grossulariaceae.

Gooseberry.

From Vineland Station, Ontario, Canada. Plants presented by James A. Neilson, Horticultural Experiment Station. Received November 7, 1924.

Clark. This variety was found in the garden of Jabez Clark, of Burlington, Ontario. It is believed to be a chance hybrid between the American and European species. This variety has been growing at the Horticultural Experiment Station since 1911 and is the only variety that survived on our very heavy clay soil. The bush is a vigorous grower and retains its foliage late in the season. It yields heavily and bears large fruits of good quality and appearance. The plants appear to be drought resistant. We consider this variety one of the best for commercial culture in this district. (G. H. Dikson, *Vine-land Station*.)

61795 and 61796.

From Dar es Salaam, Tanganyika Territory, Africa. Seeds presented by the director, Department of Agriculture. Received October 21, 1924.

61795. CRYPTOSTEGIA GRANDIFLORA R. Br. Asclepiadaceae.

Palay rubber.

An erect, woody climber of unknown nativity but now cultivated in many places in the Tropics of both hemispheres as an ornamental, and occasionally growing as an escape from cultivation. The flowers, reddish purple becoming pale pink, are about 2 inches across and are produced in short spreading cymes. In India the plant is called palay; it is cultivated for the rubber obtained from the juice.

For previous introduction see S. P. I. No. 58851.

61796. FICUS VOLKENSH Warb. Moraceae.

This tropical African representative of the genus is a shrub or small tree with narrow, papery leaves.

61797 and 61798. ACACIA spp. Mimosaceae.

Hybrid acacia.

From Mandelieu, near Cannes, Alpes Maritimes, France. Seeds presented by A. Richon. Received October 23, 1924. Notes by Mr. Richon.

61797. ACACIA BAILEYANA × DEALBATA.

The hybrids of these species bear very long spikes of well-colored flowers. They resemble *Acacia dealbata* in being hardy, but, unlike that species, the leaflets do not fold up in the evening. Some develop root suckers; others do not.

61798. ACACIA sp.

Bon Accueil. This is a chance hybrid, perhaps between *Acacia decurrens* and *A. dealbata*. I consider it one of the most beautiful acacias grown on the Riviera. The flower clusters have up to 40 heads, larger than the best varieties of *A. dealbata*; they are beautifully grouped at the ends of the branches. The leaves are bright green with long, very fine leaflets. The tree is vigorous and about 20 feet high, but a little less hardy than *A. dealbata*.

61799 and 61800.

From Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received October 24, 1924. Notes by Doctor Shantz.

61799. HYPERICOPHYLLUM sp. Asteraceae.

No. 217. Above Inhamica, Tanganyika Territory. April 21, 1924. A bright, reddish orange composite.

61800. PAHUDIA QUANZENSIS (Welw.) Prain. (Afzelia quanzensis Welw.).

Cesalpiniaceae.

No. 483. Beira, Portuguese East Africa. May 24, 1924. A broad, spreading tree, with very rich pinnate foliage, regarded as one of the most beautiful trees for street planting and for parks. It produces beautiful wood, mahoganylike, but of much coarser grain.

For previous introduction see S. P. I. No. 49310.

61801. OXALIS INCARNATA L. Oxalidaceae.

From Algiers, Algeria. Bulbs presented by Dr. L. Trabut. Received October 25, 1924.

A very attractive, low, bulbous plant, with reddish-purple leaves, dotted beneath, and bell-shaped flesh-colored flowers. Native to South Africa.

61802. PRUNUS sp. Amygdalaceae.

From Siberia. Plants collected by Prof. N. E. Hansen, South Dakota State College, Brookings, S. Dak. Received October 25, 1924.

Of possible value as a stock.

61803. ACTINIDIA VENOSA Rehder. Dilleniaceae.

From Elstree, Herts, England. Cuttings presented by Vicary Gibbs, Aldenham House, through David Fairchild, Bureau of Plant Industry. Received November 1, 1924.

A climbing shrubby plant from the mountains of western Szechwan, China, which may prove an interesting ornamental. It is described (*Plantae Wilsonianae*, vol. 2) as being up to 25 feet in height, with oval, membranous leaves, short clusters of buff-yellow flowers, and small, russet berries.

61804. PRUNUS CERASUS L. Amygdalaceae.

Morello cherry.

From Dropmore, Manitoba, Canada. Seeds presented by F. L. Skinner. Received November 8, 1924.

From seedlings of the hardy Koslov-Morello cherry.

61805 to 61809. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceae.

Soy bean.

From Shaoling, Chekiang, China. Seeds presented by Rev. A. F. Ufford, American Baptist Foreign Mission Society. Received October 25, 1924.

61805. Black variety, A.

61806. Black variety, B.

61807. Green variety, A.

61808. Green variety, B.

61809. Two white varieties, mixed.

**61810. DIOSPYROS SABIENSIS Hiern. Di-
ospyraceae. Persimmon.**

From Mount Silinda, Southern Rhodesia. Seeds presented by Dr. W. L. Thompson. American Board Mission. Received November 10, 1924.

A wild persimmon from this region; the tree grows to a large size, 100 feet or more in height, and the fruit, which is very sweet and popular with the natives, is too small and full of seeds to be of much value. I have not yet tried this species as a stock for the larger fruited forms. (Thompson.)

61811 to 61832.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November, 1924. Notes by Mr. Dorsett.

61811 to 61817. AMYGDALUS spp. Amygdalaceae.

61811 to 61816. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Peach.

61811. No. 440. August 30, 1924.

61812. No. 474. September 2, 1924.

61813. No. 481. September 2, 1924.

61814. No. 497. September 4, 1924.

61815. No. 50. September 4, 1924.

61816. No. 514. September 6, 1924.

61817. AMYGDALUS PERSICA PLATYCARPA (Decaisne) Ricker. Flat peach.

No. 439. August 30, 1924. These are reported to have come from Tsinan, Shantung Province.

61818. ARACHIS HYPOGAEA L. Fabaceae. Peanut.

No. 754½. Peking. September 29, 1924. Purchased in the market; said to have come from the South; mostly two seeded.

61819 to 61826. MALUS spp. Malaceae. Apple.

Seeds of domesticated apples; obtained in the Peking market.

61819. MALUS sp.

No. 443. August 30, 1924.

61820. MALUS sp.

No. 444. August 30, 1924.

61821. MALUS sp.

No. 445. August 30, 1924.

61822. MALUS sp.

No. 475. September 2, 1924.

61823. MALUS sp.

No. 479. September 2, 1924.

61824. MALUS sp.

No. 480. September 2, 1924.

61825. MALUS sp.

No. 498. September 4, 1924.

61826. MALUS sp.

No. 502. September 4, 1924.

61827. PRUNUS sp. Amygdalaceae. Plum.

No. 477. Peking. September 2, 1924. From fruits purchased in the market; may be useful as stock.

61811 to 61832—Continued.

61828 to 61832. PYRUS spp. Malaceae. Pear.

61828. PYRUS sp.

No. 496. September 4, 1924. Seeds from fruit taken from a tree in Mr. Strong's garden at the village of Mao-Chiotu, about 4 miles east of the east gate of the Peking wall. As an ornamental, with its abundance of small, bright-red fruits, it is very handsome.

61829. PYRUS sp.

No. 703. September 19, 1924. Collected near the village of Llangchakou. This tree, which was loaded with small, bright-red fruits, may prove useful as an ornamental or for stock.

61830 to 61832. Peking. September 29, 1924. From the market. Small, wild pears said to be used in the western hills for stock. They are much larger than the wild Chinese pears we have seen.

61830. PYRUS sp.

No. 752.

61831. PYRUS sp.

No. 753.

61832. PYRUS sp.

No. 754.

61833. EUCALYPTUS PAUCIFLORA Siebr. Myrtaceae. White gum.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received November 11, 1924.

The white gum, as this eucalypt is called in Australia, attains there a height of 100 feet and a diameter of about 4 feet. It grows well in swampy lowlands, and the timber is used for general building purposes.

61834 to 61852.

From China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 21, 1924. Notes by Mr. Dorsett.

61834. CASTANEA sp. Fagaceae. Chestnut.

No. 790. Fa Hua Ssu temple, Taitzu, Chihli. October 12, 1924. Seeds secured from trees growing on terraced, decomposed granite soil. These chestnuts are the largest and finest looking we have seen.

61835. CASTANEA sp. Fagaceae. Chestnut.

No. 791. Fa Hua Ssu temple, Taitzu, Chihli. October 12, 1924. Seeds. These chestnuts are the ordinary run of the crop and are of average size.

61836. CORYLUS sp. Betulaceae. Hazel.

No. 775. Shalinglang, Chihli. October 10, 1924. Plants and scions.

61837 to 61842. DIOSPYROS KAKI L. f. Diospyraceae. Kaki.

61837. No. 771. Tailuangyuan. October 8, 1924. Scions obtained from a tree, the best we have yet seen, growing in an orchard belonging to Sun Yu. In most cases this variety bears small crops.

61838. No. 772. Tailuangyuan. October 8, 1924. Scions. This fruit, the quality of which is very good, is not more than one-half the size of the large Chinese persimmon.

61834 to 61852—Continued.

61839. No. 782. Lungtzuting Valley. October 12, 1924. Scions from a tree growing in a large orchard of mixed fruits. Though a comparatively young tree, perhaps 8 or 10 years old, this tree was full of fruit.

61840. No. 783. Lungtzuting Valley. October 12, 1924. Scions from a tree in a large orchard, the fruits of which are small and slender, reminding us very much of large acorns.

61841. No. 784. Lungtzuting Valley. October 12, 1924. Scions from young trees of what is supposed to be the "lantern" persimmon.

61842. No. 785. Lungtzuting Valley. October 12, 1924. Scions from a persimmon tree, the fruits of which are small and quite slender.

61843. IRIS sp. Iridaceæ. Iris.
No. 773. October 8, 1924. Plants of a wild iris collected along a rocky terrace across the river from the Yung Lo [Ming] tomb.

61844. IRIS sp. Iridaceæ. Iris.
No. 774. October 8, 1924. Plants collected on the grounds around the Yung Lo [Ming] tomb.

61845. POPULUS TOMENTOSA Carr. Salicaceæ. Poplar.

No. 786. October 12, 1924. Scions of a graceful poplar, the trunk of which is gray; collected along the river bank between Hungmentsun and Hsiachuang.

61846. PRUNUS sp. Amygdalaceæ. Cherry.

No. 781. Fa Hua Ssu temple, near the village of Haitzu, Chihli. October 11, 1924. Scions of a cherry having the appearance and habit of *Prunus pseudocerasus*.

61847 to 61850. PYRUS spp. Malaceæ. Pear.

Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. Scions introduced for trial as stock plants on which to graft cultivated varieties and for use in breeding types resistant to fire blight.

61847. PYRUS sp.

No. 777. Called the "sugar pear" by the priest. A good-sized, russet pear covered with many small brown dots, containing a fair amount of juice, which is like sweetened water and is of poor flavor. The white flesh is crisp and gritty. This pear is reported to be one of the best keepers.

61848. PYRUS sp.

No. 778. A fragrant pear, small and greenish yellow, covered with numerous small brown dots. The juice is like sweetened water and the white flesh is crisp, a little gritty, and slightly woody. The quality of this pear is poor, though better than the sugar pear [S. P. I. No. 61847].

61849. PYRUS sp.

No. 779. A small to medium-sized pear, fragrant and dull greenish yellow, covered with many small brown dots. Flesh white, crisp, and gritty; juice watery and sweet.

61834 to 61852—Continued.

61850. PYRUS sp.

No. 780. Known as "Golden Handie." This pear is small to medium sized, creamy white, and covered with many small brown dots. The white flesh is gritty and coarse, and the sweet juice is only of fair quality. One of the most attractive of the five pears we photographed here, and we think this is the best pear seen here.

61851. RUBUS sp. Rosaceæ.

No. 776. Wanpochuan, Chihli. October 10, 1924. Plants.

61852. SALIX sp. Salicaceæ. Willow.

No. 787. October 12, 1924. Cuttings of a quite common, upright growing willow, collected along a river between Hungmentsun and Hsiachuang.

61853. ROSA ROULETTII CORREYON. Rosa-ceæ. Rose.

From Chenebourg, near Geneva, Switzerland. Plants purchased from H. Correyon, Floraire Nursery. Received November 15, 1924.

A dwarf shrubby rose of the general type of *Rosa lawrenciana*, but even smaller than the latter. As grown in my garden it does not become more than 4 inches in height, and the very numerous red flowers are produced continuously from May to January if the plant is sheltered. (Correyon.)

61854. LILIUM sp. Liliaceæ. Lily.

From Peking, China. Bulbs collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 24, 1924.

No. 789. October 15, 1924. Procured in the market. (Dorsett.)

61855. JUGLANS REGIA L. Juglandaceæ. Walnut.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received November 13, 1924.

* These walnuts, which come from Aures, are of excellent quality. The trees are very vigorous, and this strain has been propagated from seeds by the natives for centuries. (Trabut.)

61856. PYRUS sp. Malaceæ. Pear.

From Dropmore, Manitoba, Canada. Plants presented by F. L. Skinner. Received November 4, 1924.

Tait's No. 1. Introduced for pear-breeding experiments.

61857 to 61860. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceæ. Common wheat.

From Maison Carree, Algeria. Seeds presented by the governor general, institute of agriculture. Received November 20, 1924.

61857. No. 1. Soudan.

61858. No. 6. Soudan.

61859. No. 11. Djeghloul.

61860. No. 87. Bahatane.

61861 to 61879. TRITICUM DURUM Desf.
Poaceæ. Durum wheat.

From Rabat, Morocco. Seeds presented by the Station de Sélection et D'Essai de Semences, Rabat, through J. H. Martin, Bureau of Plant Industry. Received November 20, 1924.

61861. No. 6.	61871. No. 120.
61862. No. 8.	61872. No. 140.
61863. No. 14.	61873. No. 156.
61864. No. 16.	61874. No. 181.
61865. No. 20.	61875. No. 182.
61866. No. 22.	61876. No. 184.
61867. No. 24.	61877. No. 185.
61868. No. 46.	61878. No. 196.
61869. No. 88.	61879. No. 198.
61870. No. 110.	

61880. ACACIA sp. Mimosaceæ.

From Old Umtali, Rhodesia, Africa. Seeds presented by E. H. Greeley. Received November 21, 1924.

A flowering tree, 20 feet high, with handsome foliage, and clusters of long, white, sweet-scented flowers. (Greeley.)

61881. QUERCUS sp. Fagaceæ. Oak.

From Chihli Province, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 24, 1924.

No. 788. October 8, 1924. Acorns from a broad-leaved oak growing near the Yung Lo [Ming] tomb. (Dorsett.)

61882. ERIOBOTRYA JAPONICA (Thunb.) Lindl. Malaceæ. Loquat.

From Babson Park, Fla. Plants presented by W. D. Carrier, Polk County Avocado Nurseries. Received November 28, 1924.

A seedling loquat, of excellent quality, from a fine old tree grown in Putnam County, Fla. This tree has survived freezes since 1894, and produces large quantities of excellent fruits. (Carrier.)

61883 and 61884.

From Peking, China. Tubers collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 26, 1924. Notes by Mr. Dorsett.

61883. COLOCASIA sp. Araceæ. Taro.

No. 794. October 17, 1924. The small dasheen tubers we have ever seen offered for sale, obtained from the Morrison Street Market.

61884. SAGITTARIA SAGITTIFOLIA L. Alismaceæ. Arrowhead.

No. 795. October 17, 1924. Chinese name Tzu Ku. Obtained from the market. These are very good cooked and served with a sweet sauce.

61885 to 61892.

From the island of Chiloe, Chile. Collected by Elbert E. Reed, Instituto Agrícola Bunster. Received November 19, 1924.

The island of Chiloe, which lies off the coast of Chile in latitude 42° S., is a region little known horticulturally. It is reputed to be the home of wild forms of

the true potato, as well as of *Fragaria chilensis*, the frutilla or Chilean strawberry, which is cultivated in several parts of the Andean region. This berry, which was carried to Europe from Concepcion, Chile, in 1712, has played an important part in the development, through crossing, of the cultivated strawberries of the present day.

In order to procure from Chiloe material for the use of North American plant breeders, actively engaged in the improvement of potatoes and strawberries, the Department of Agriculture arranged with Elbert Reed, horticulturist of the Instituto Agrícola Bunster at Angol, Chile, to visit the island. Mr. Reed has sent in the following collection together with his notes:

61885. FRAGARIA sp. Rosaceæ. Strawberry.

Plants of a wild strawberry from sand banks more or less 100 feet high, near Quilán.

61886 to 61892. SOLANUM spp. Solanaceæ. Wild potato.

61886 and 61887. Tubers raised from wild potato seeds by Señor Vera, of Quilán, near Cucao.

61886. SOLANUM sp.

A hybrid between the wild and Quilán varieties.

61887. SOLANUM sp.

A wild variety.

61888. SOLANUM sp.

From a patch of ground adjoining the beach at Alpua, about 15 miles south of Cucao.

61889. SOLANUM sp.

Presented by Sr. Everardo Werner, of Puntura. Señor Werner discovered these wild potato plants in the region called Cucao, on the west coast of Chiloe, about six years ago, while searching with a large party for the passengers of a wrecked ship. He has cultivated these plants ever since.

61890 to 61892. Progeny of the wild potato, brought from Cucao by Señor Werner, showing a very distinct variation in the seedlings from the wild pistillate parent, both in the tuber and in the plants. It here loses all semblance to the wild type and appears like the ordinary cultivated potato. Señor Werner says that all three colors—red, white, and yellow—came from the seeds of one plant.

61890. SOLANUM sp.

White strain.

61891. SOLANUM sp.

Yellow strain.

61892. SOLANUM sp.

Red strain.

61893. GOSSYPIUM sp. Malvaceæ. Cotton.

From Constantza, Rumania. Seeds presented by Kevork Boyadjian, through Richard B. Haven, American vice consul. Received December 1, 1924.

Turkish cotton which matured at Dobrodja, Rumania, where the growing season is 100 to 150 days long and usually very warm. (Haven.)

61894 and 61895. DIOSPYROS KAKI L. f.
Diospyraceae. Kaki.

From Hananho, Chihli, China. Scions collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 29, 1924. Notes by Mr. Dorsett.

61894. No. 797. October 21, 1924. Scions obtained from a young tree known here as the "Lantern persimmon." This tree was found growing in the same orchard from which the large Chinese persimmon, Nos. 771 and 798 [S. P. I. Nos. 61837 and 61895] was obtained. If girdled, this tree produces very good and sometimes heavy crops, otherwise it appears to be shy in fruiting. Though small, the fruits are attractive.

61895. No. 798. October 21, 1924. A large Chinese persimmon from one of the best trees in the orchard. The land on which this orchard is located is composed of sandy loam and is of very good texture.

61896 to 61898.

From Peking, China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 8, 1924. Notes by Mr. Dorsett.

61896. HELIANTHUS TUBEROSUS L. Asteraceae. Jerusalem artichoke.

No. 1046. October 26, 1924. Tubers. The Chinese name is *Ti Kua*, meaning "ground gourd." These small tubers are mostly used in making pickles or are eaten raw.

61897. STACHYS SIEBOLDI Miquel. Menthaceae. Chorogi.

No. 1047. October 26, 1924. Tubers. The Chinese name is *Wai Kuo Chiang*, meaning "foreign ginger." The tubers are of average size.

61898. ZINZIBER OFFICINALE Roscoe. Zinziberaceae. Ginger.

No. 1050. October 27, 1924. Ginger roots purchased in the market. These had been shipped in from Fu Chen. It is reported that this is the best type of Chinese ginger.

61899. LANSIUM DOMESTICUM Jack. Meliaceae. Langsat.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received December 8, 1924.

The langsat or lanzon is reckoned one of the best fruits of the Malayan region.

The tree reaches 40 feet in height and has pinnate leaves composed of five to seven elliptic leaflets each 4 to 8 inches long. The fruit varies in form and character, but is generally oval or round, 1 to 2 inches in diameter, velvety and straw colored, with a thick leathery skin inclosing five segments of white, translucent, juicy, aromatic flesh, and one to three large seeds.

Two distinct kinds are known, one termed langsat and the other duku or doedoe. Choice seedling forms occur in both, and should be propagated by some vegetative means.

For previous introduction see S. P. I. No. 58382.

61900 to 61902.

From Kobe, Japan. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 8, 1924. Notes by Mr. Dorsett.

61900. CITRULLUS VULGARIS Schrad. Cucurbitaceae. Watermelon.

No. 214. August 9, 1924. A watermelon of average size obtained from the market. The red flesh is of very good quality.

61901 and 61902. CUCUMIS MELO L. Cucurbitaceae. Melon.

61901. No. 212. August 9, 1924. A greenish yellow melon about 3 inches in diameter and 6 inches in length. The flesh, which is white and not very thick, is of fair quality.

61902. No. 213. August 9, 1924. A small, lemon-yellow melon, which is very fragrant; purchased in the market. The flesh is white, crisp, and of very good quality.

61903 to 61914.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November, 1924. Notes by Mr. Dorsett.

61903. ARISTOLOCHIA sp. Aristolochiaceae.

No. 716. Tanchientzu. September 21, 1924. Collected along the trail.

61904. BEGONIA EVANSIANA Andrews. Begoniaceae.

No. 651. Heichunghuan. September 17, 1924. A wild begonia with pink flowers; collected on the river bank.

61905. BENINCASA HISPIDA (Thunb.) Cogn. Cucurbitaceae. Wax gourd.

No. 319. Shanghai. August 16, 1924. A large gourd used in Shanghai as a vegetable and sold in the market in large quantities.

61906. BERBERIS POIRETI C. Schneid. Berberidaceae. Barberry.

No. 705. Liangshalou. September 17, 1924. This barberry has small leaves and small, bright-red berries.

61907 and 61908. CAPSICUM ANNUUM L. Solanaceae. Red pepper.

61907. No. 495. September 3, 1924. Collected at Loutzuchang, about 4 or 5 miles east of Peking.

61908. No. 499. Peking. September 4, 1924. Purchased in the market. These bright-red peppers are of good size and much corrugated. They are used for seasoning.

61909 to 61913. CITRULLUS VULGARIS Schrad. Cucurbitaceae. Watermelon.

61909. No. 471. Peking. August 30, 1924. A very dark-green watermelon, weighing 22 pounds, with yellow flesh, which is sweet and of good flavor.

61910. No. 472. Peking. August 30, 1924. Purchased in the market. A watermelon striped light and dark green, weighing 14 pounds. The flesh is yellow, juicy, and sweet.

61903 to 61914—Continued.

61911. No. 473. Peking. September 1, 1924. Brought from the market by Peter Lin. This watermelon, weighing 1½ pounds, has a light-green rind and white juicy sweet flesh of good quality.

61912. No. 507. Peking. September 4, 1924. A long light-green watermelon, 15 pounds in weight with light-yellow flesh of fair quality.

61913. No. 508. Peking. September 4, 1924. A small, oval watermelon, weighing 11 pounds, with a light-green rind and bright-red flesh.

61914. *CUCUMIS MELO* L. Cucurbitaceæ. Melon.

No. 601. Shihmen, Chihli. September 11, 1924. A small green melon with white flesh which is crisp and of fair flavor.

61915. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceæ. Cushaw.

From Kobe, Japan. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 8, 1924.

No. 215. August 9, 1924. From the market. A good-looking squash, the outside being a deep russet brown and the flesh a deep golden yellow. (Dorsett.)

61916 to 61971.

From China. Seeds and tubers collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November, 1924. Notes by Mr. Dorsett.

61916 and 61917. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceæ. Cushaw.

61916. No. 320. Shanghai. August 16, 1924. A russet-brown, long-necked squash with thick, deep-orange flesh.

61917. No. 322. Shanghai. August 16, 1924. A large, crook-necked squash from the market. The rind is smooth and of terra-cotta color; the flesh is deep orange.

61918. *CUCURBITA PEPO* L. Cucurbitaceæ. Pumpkin.

No. 321. Shanghai. August 16, 1924. This rather small, oval fruit, obtained in the market, is 6 to 9 inches long and has a creamy yellow rind and yellow flesh.

61919 and 61920. *DELPHINIUM GRANDIFLORUM* L. Ranunculaceæ. Larkspur.

61919. No. 696. September 19, 1924. Seeds of a very attractive, deep-blue larkspur, collected at the Temple of the Three Saints, located on one of the ranges of the Western Hills, between Chianglou and Liangchakou.

61920. No. 704. September 19, 1924. A hardy larkspur with large heads of deep-purple flowers borne on spikes sometimes 12 inches or more in length, found quite abundantly on the eastern slope of the range of mountains near the village of Liangchakou.

61921. *DIOSCOREA* sp. Dioscoreaceæ. Yam.

No. 492. September 3, 1924. From Loutzuchang, which is 4 or 5 miles east of Peking. These aerial tubers were obtained from vines about 15 feet in length.

61916 to 61971—Continued.

61922. *GLEDITSIA HETEROPHYLLA* Bunge. Cæsalpiniaceæ. Honey locust.

No. 653. Tungchuangtzu. September 17, 1924. This shrubby plant, 6 to 15 feet in height, was found on a gravelly river bank. The leaves are small, and the broad seed pods, when ripe, and the rather large, flat seeds are mahogany brown.

61923. *IRIS DICHOTOMA* PALL. Iridaceæ. Iris.

No. 650. Heilungkuan. September 17, 1924. A wild iris from rocky cliffs on the north side of the mountain about a day's journey from Toli.

61924. *LONICERA* sp. Caprifoliaceæ. Honeysuckle.

No. 701. September 19, 1924. This shrub, bearing small, round, bright-red berries, was found on the east slope of the mountain near Liangchakou.

61925. *MALUS* sp. Malaceæ. Apple.

No. 478. Peking. September 2, 1924. These fruits, resembling crab apples, were purchased in the market; they are rather seedy, small, round, and creamy white; the flesh is pure white, crisp, and juicy, containing just enough acid to be pleasant. May prove of value to apple breeders.

61926 to 61936. *PHASEOLUS* spp. Fabaceæ.

61926 to 62929. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Adzuki bean.

61926. No. 603. Shihmen, Chihli. September 11, 1924. A small, black and gray bean, with a distinct white eye, from a field near the railway station.

61927. No. 672. September 18, 1924. From Precious Spring or Water Mountain, about half a day's journey from Hungmeichang. The plants are fairly vigorous, growing 18 to 24 inches high, and the seeds are a dirty creamy white.

61928. No. 702. September 19, 1924. Collected near the village of Chianglou, en route to Liangchakou; creamy white beans from the steep mountain side.

61929. No. 707. Liangchakou. September 19, 1924. This small red bean appears to be planted wherever we have been.

61930 to 61934. *PHASEOLUS AUREUS* Roxb. Mung bean.

61930. No. 605. Shihmen, Chihli. September 11, 1924. A small, green bean, collected in a field near the railway station. Used commonly as a green vegetable and for sprouting. It appears to do well in any kind of soil.

61931. No. 616. September 16, 1924. Small, brown beans growing in sandy loam just across the river from Toli, Chihli. The plants are about 2 feet in height and are quite vigorous.

61932. No. 617. September 16, 1924. Yellow beans collected across the river from Toli, Chihli. The plants are about 18 inches high and fairly vigorous.

61916 to 61971—Continued.

61933. No. 618. September 16, 1924. Green beans collected across the river from Toli, Chihli.
61934. No. 619. September 16, 1924. Black beans collected across the river from Toli, Chihli.
- 61935 and 61936. *PHASEOLUS VULGARIS* L. Common bean.
61935. No. 710. Liangchakou, Chihli. September 19, 1924. Red beans.
61936. No. 711. Liangchakou, Chihli. September 19, 1924. White beans.
61937. *PHYSALIS* sp. Solanaceæ. Ground cherry.
- No. 699. September 19, 1924. Pinkish yellow husk tomato collected near the village of Taanshan. May prove of value to plant breeders.
61938. *PTEROCARYA STENOPTERA* DC. Juglandaceæ. Chinese wingnut.
- No. 295½. Shanghai, August 15, 1924. Collected from the Bubbling Well cemetery, a short distance from the grave of Frank N. Meyer. The long, pendulous catkins make this tree quite attractive.
61939. *RHAMNUS GLOBOSA* Bunge. Rhamnaceæ. Buckthorn.
- No. 697. September 19, 1924. From the west side of one of the ranges of the Western Hills, opposite the village of Chianglou. This shrubby, thorny plant, which may be ornamental and may also prove to be a good hedge plant, was found growing in very exposed places.
- 61940 to 61952. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.
- 61940 to 61943. Peking. September 4, 1924. From plants growing in the Peking Botanical Garden.
61940. No. 503. Originally from Chelin. The plants are 2 feet or more high and quite vigorous.
61941. No. 504. Large, green soy beans from vines about 3 feet in height.
61942. No. 505. Originally from Shansi. Large, green soy beans from vines about 3 feet in height.
61943. No. 506. Originally from Japan. These soy beans are large and green; the vines are about 3 feet high.
61944. No. 568. September 9, 1924. An almost round, creamy yellow soy bean collected between Anshan and Kepo, Chihli, 75 to 100 miles east of Peking.
61945. No. 569. September 9, 1924. Collected between Anshan and Kepo, Chihli. A creamy soy bean somewhat larger than No. 568 [S. P. I. No. 61944].
61946. No. 570. September 9, 1924. Brown soy beans mottled with black, collected between Kepo and Wankuankechuan. Not nearly so common as the creamy yellow type, No. 568 [S. P. I. No. 61944].
61947. No. 586. September 10, 1924. An almost round, creamy yellow soy bean, with a brown eye, collected between Kepo and Toukoankehuan.

61916 to 61971—Continued.

61948. No. 587. September 10, 1924. Brown and black striped soy beans, collected between Toukoankehuan and Kepo, Chihli.
61949. No. 604. Shihmen, Chihli. September 11, 1924. This black-seeded soy bean, from a field near the railway station, is only seen occasionally.
61950. No. 606. Shihmen, Chihli. September 11, 1924. This soy bean, mottled black and brown, is from a field near the railway station.
61951. No. 708. Liangchakou, Chihli. September 19, 1924. Seeds of a soy bean, rather small, oval, and creamy white, from strong, vigorous vines.
61952. No. 718. Mentoukou. September 21, 1924. From a very rocky area.
61953. *SOLANUM MELONGENA* L. Solanaceæ. Eggplant.
- No. 509. Peking. September 4, 1924. An attractive eggplant 5 inches in diameter and 4 inches in length.
61954. *SPIRAEA DASYANTHA* Bunge. Rosaceæ. Spirea.
- No. 670. September 19, 1924. A very free-flowering, rather dwarf plant found growing on Precious Spring or Water Mountain, Chihli.
61955. *VIBURNUM* sp. Caprifoliaceæ.
- No. 700. September 19, 1924. A shrub growing on the mountain side, near Liangchakou. The seed berries or fruits occur two or three in a cluster and are at first red, changing to black when ripe.
- 61956 to 61958. *VIGNA SESQUEDALIS* (L.) Fruwirth. Fabaceæ. Yard Long bean.
- Liangchakou, Chihli. September 21, 1924. Collected in a field.
61956. No. 728. Light buff.
61957. No. 728 a. Black.
61958. No. 728 b. Reddish brown.
- 61959 to 61965. *VIGNA SINENSIS* (Toner) Savi. Fabaceæ. Cowpea.
61959. No. 588. Near Kepo, Chihli. September 10, 1924. A creamy white cowpea with a purple eye.
61960. No. 591. Toukoankehuan, Chihli. September 10, 1924. Cowpeas tinged with greenish pink.
61961. No. 602. Shihmen, Chihli. September 11, 1924. A red-seeded cowpea collected in a field near the railway station.
61962. No. 607. Shihmen, Chihli. September 11, 1924. Cowpeas speckled dirty gray and reddish brown, collected near the railway station.
61963. No. 620. September 16, 1924. Purple-eyed, white cowpeas collected in a river bottom field between Toli and Koutoutsun, Chihli.
61964. No. 621. September 16, 1924. Red cowpeas from a river bottom field between Toli and Koutoutsun, Chihli.
61965. No. 622. Toli, Chihli. September 16, 1924. Pink or brick-red cowpeas from a gravelly clay hill.

61916 to 61971—Continued.

61966 to 61970. *ZEA MAYS* L. Poaceae.
Corn.

61966. No. 571. September 9, 1924. Obtained from the fields between Anshan and Kepo, Chihli. One of the representatives of the average corn of this section.

61967. No. 589. Talientzu, September 10, 1924. Collected in a field. One of the representatives of the average corn of this section.

61968. No. 675. September 18, 1924. Collected near the village of Taanshan.

61969. No. 676. September 18, 1924. Collected near Hungmeichang. This corn is the yellow flint and has one ear to the stalk. It is evident that corn is one of the most important crops in this mountain country.

61970. No. 709. Liangchakou, Chihli. September 19, 1924. One of the representatives of the average corn of this section.

61971. *ZINNIA MULTIFLORA* L. Asteraceae.

No. 654. September 17, 1924. Collected between Shatsui and Kanho. This rather attractive plant, with terra cotta-colored flowers, appears to be indigenous. May prove of value to plant breeders.

61972 to 61996.

From Elstree, Herts, England. Seeds presented by Hon. Vicary Gibbs, Aldenham House, through David Fairchild, Bureau of Plant Industry. Received November 12, 1924. Notes by Doctor Fairchild.

61972. *ARONIA ARBUTIFOLIA* (L.) Pers. (*Pyrus arbutifolia* L. f.). Malacae.
Red chokeberry.

No. 12. Var. *grandiflora*. A large-flowered form with delicate pink, almost translucent fruits.

61973. *BERBERIS BRACHYPODA* Maxim. Berberidaceae.
Barberry.

Nos. 1 and 2. An attractive shrub from western China, 4 to 7 feet high with ovate, serrate leaves, long slender panicles of yellow flowers, and scarlet fruits often half an inch long.

For previous introduction see S. P. I. No. 58097.

61974. *BERBERIS GAGNEPAINI* C. Schneid. Berberidaceae.
Barberry.

No. 3. An evergreen Chinese shrub 3 to 6 feet high, with leathery leaves, spiny on the margins, and delicate yellow flowers on red pedicels. The ellipsoid berries are dark purple.

For previous introduction see S. P. I. No. 58138.

61975. *CORIARIA TERMINALIS* Hemsl. Coriariaceae.

No. 4. A handsome shrub of very graceful habit, with translucent golden yellow fruits which hang in long racemes from the twigs.

61976. *COTONEASTER FRIGIDA* Wall. Malacae.

No. 6. Var. *vicarii*. A variety named after Mr. Gibbs, with small, very brilliant red fruits: one of the handsomest of the genus.

For previous introduction see S. P. I. No. 56450.

61972 to 61996—Continued.

61977. *COTONEASTER SALICIFOLIA RUGOSA* (E. Pritz.) Rehd. and Wils. Malacae.

No. 5. A willow-leaved cotoneaster of very distinctive appearance with bright-scarlet fruits of small size and delicate appearance.

For previous introduction see S. P. I. No. 58610.

61978. *CRATAEGUS OXYACANTHA* L. Malacae.
English hawthorn.

No. 7. Var. *gireoudi*. A remarkable variegated variety which Mr. Gibbs has proved will come true to seed.

61979. *DIPTERONIA SINENSIS* Oliver. Aceraceae.

No. 8. A monotypic genus from China closely related to the maples. An attractive tree with conspicuous papery winged fruits borne in the autumn. It reminds one somewhat of the bladder-nut tree (*Ptelea trifoliata*).

61980 to 61982. *EUONYMUS* spp. Celastraceae.

61980. *EUONYMUS EUROPAEUS* L.
Spindle tree.

No. 9. Var. *aldenhamensis*. A beautiful variety selected by Mr. Gibbs and named in honor of his estate. The delicate pink color of its fruit is particularly attractive.

61981. *EUONYMUS HAMILTONIANUS* Wall.

No. 11. A large Himalayan shrub which under favorable circumstances becomes a moderate-sized tree, 30 to 35 feet high, with a short, straight trunk 4 to 5 feet in girth. The clusters of 15 to 20 greenish-white flowers are followed by yellow capsules, the seeds of which are entirely surrounded by a scarlet aril. The fruit ripens from August onward. The leaves are brilliantly colored in autumn.

For previous introduction see S. P. I. No. 57281.

61982. *EUONYMUS YEDOENSIS* Koehne.
Yeddo euonymus.

No. 10. A particularly attractive species from Japan with more than usually beautiful pink fruits.

For previous introduction see S. P. I. No. 53702.

61983. *MALUS THEIFERA* Rehder. Malacae.
Tree crab.

No. 19. A small, stiff-branched tree, native to China, which bears fragrant white flowers and globose, yellow fruits with red cheeks.

For previous introduction see S. P. I. No. 54091.

61984. *PSEDERA HIMALAYANA* (Royle) C. Schneid. Vitaceae.

No. 27. Var. *rubrifolia*. A semiwoody, Himalayan climber, with handsome trifoliate leaves which become brilliant red in autumn.

61985. *PYRUS SALICIFOLIA* Pall. Malacae.
Pear.

No. 15. Var. *pendula*. An ornamental, pendulous variety of the willow-leaved pear, which is a small, often spiny tree, native to Asia Minor, with corymbs of white flowers and round, yellowish green fruits.

61972 to 61996—Continued.

61986. *ROSA DAVIDI* Crepin. Rosaceæ.

Rose.

No. 20. A pink-flowered, orange-fruited rose 3 to 18 feet high, native to western Szechwan, China, at altitudes of 4,000 to 9,000 feet. It is the nearest Chinese relative of *Rosa macrophylla* of the western Himalayas.

For previous introduction see S. P. I. No. 58617.

61987 to 61992. *SORBUS* spp. Malaceæ.61987. *SORBUS ARIA* × *AUCUPARIA*.

No. 14. A hybrid bearing unusually large and attractive bright-red fruits.

61988 and 61989. *SORBUS AUCUPARIA* L. (*Pyrus aucuparia* Ehrh.)

European mountain ash.

61988. Var. *conradinae*.

No. 13. One of the Chinese forms which may prove unusually hardy. The berries are small but very bright red.

61989. Var. *subarachnoidea*.

No. 28. A variety with waxy white berries which stand out in striking contrast to the green leaves; this is rare even in England.

61990. *SORBUS FOLIGNERI* (C. Schneid.) Rehd. (*Pyrus foligneri* Léveillé).

No. 16. A handsome Chinese tree, with gracefully spreading branches and oval leaves, dark green above and white-hairy beneath. The ovoid, red berries are about half an inch long.

61991. *SORBUS SCALARIS* Koehne.

No. 17. A large shrub, one of E. H. Wilson's introductions from China. The tiny red fruits on long delicate peduncles are very attractive.

61992. *SORBUS VILMORINI* C. Schneid.

No. 18. A handsome shrub from Yunnan, China. The graceful, finely cut foliage, white or somewhat pinkish flowers, and bright, translucent, rosy-red fruits make an attractive ornamental.

61993. *STRANVAESIA DAVIDIANA* UNDULATA (Decaisne) Rehd. and Wils. Malaceæ.

No. 22. A low, spreading, evergreen shrub, or occasionally a small tree, native to western China. The leathery, narrowly oval leaves are glossy green and 1 to 3 inches long, and the white flowers, about half an inch across, appear in terminal clusters. Its greatest charm as an ornamental is the abundant crop of bright-red fruits.

For previous introduction see S. P. I. No. 58621.

61994. *STYRAX DASYANTHUM* Perkins. Stracacæ. Snowbell.

No. 23. A deciduous shrub or small tree, native to central China, with broadly oval or obovate, pointed leaves 2 to 4 inches in length, and white flowers, one-half to three-fourths of an inch long, produced during July in slender terminal racemes. It has proved hardy in the vicinity of London, England.

61995. *VIBURNUM OVATIFOLIUM* Rehd. Caprifoliaceæ.

No. 25. A very attractive viburnum from the mountainous districts of western Hupeh, China. The ovoid berries are bright red.

For previous introduction see S. P. I. No. 53749.

61972 to 61996—Continued.

61996. *VITIS* sp. Vitaceæ.

Grape.

No. 26. This is called "Bellair's vine," from the name of the man on whose place Mr. Gibbs found it. It has small bunches of grapes like those of the fox grape, and the foliage becomes bright colored in the autumn.

61997. *VIGNA SINENSIS* (Torner) Savi. Fabaceæ. Cowpea.

From Heilungkuan, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 7, 1924.

No. 673. September 18, 1924. A red variety of cowpea from a terraced area. (Dorsett.)

61998. *ORYZA SATIVA* L. Poaceæ. Rice.

From Changchiasihmen, Chihli, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 8, 1924.

No. 593. September 11, 1924. A well-seeded, upland rice 18 inches to 2 feet high. (Dorsett.)

61999. *AVENA SATIVA* L. Poaceæ. Oats.

From Rieti, Italy. Seeds presented by N. Strampelli, director, R. Stazione Sperimentale di Granicoltura. Received November 11, 1924.

A strain grown locally at Rieti.

62000. *ZEA MAYS* L. Poaceæ. Corn.

From Sydney, New South Wales. Seeds presented by E. M. Lawton, American consul general. Received November 14, 1924.

Coodra Vale. This seed corn has been supplied by an important ranch in New South Wales; according to press reports this variety has produced as high as 142 bushels to the acre. (Lawton.)

62001. *DAUCUS CAROTA* L. Apiaceæ. Carrot.

From Auckland, New Zealand. Seeds presented by O'Leary Bros. & Downs, at the request of H. R. Wright. Received November 19, 1924.

Yates Improved White. A field carrot extensively grown in New Zealand for stock. This variety is a heavy yielder; about two-thirds of the root grows above the surface, making it easy to lift. (Wright.)

62002. *TRITICUM DURUM* Desf. Poaceæ. Durum wheat.

From Potchefstroom, Union of South Africa. Seeds presented by the School of Agriculture. Received November 25, 1924.

Var. *Great Scott*.

62003 and 62004.

From Suifu, Szechwan, China. Seeds presented by David C. Graham, Suifu, through W. deC. Ravenel, United States National Museum. Received November 26, 1924.

Samples of cereals which accompanied a consignment of specimens sent to the United States National Museum. (Ravenel.)

62003. *HORDEUM VULGARE COELESTE*. Poaceæ. Six-rowed barley.62004. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ. Common wheat.

62005. DIOSPYROS sp. Diospyraceae.

Persimmon.

From Salisbury, Rhodesia, Africa. Seeds presented by Dr. F. Eyles, botanist and mycologist, Rhodesian Department of Agriculture. Received November 13, 1924.

The ripe fruit of the "Rhodesian persimmon" is round, about $1\frac{1}{4}$ inches in diameter, brown, soft, and of pleasant flavor, and usually contains four seeds. The tree, which grows in southern Rhodesia at an altitude of 3,500 feet or less, is gnarled, with blackish bark, and becomes only 25 to 35 feet in height. The native name is *M'chenje*. According to the natives it fruits only in alternate years. (Eyles.)

62006. BYRSONIMA SPICATA (Cav.) DC. Malpighiaceae.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, Botanic Gardens. Received November 24, 1924.

A tropical tree 30 to 40 feet high, known in Dominica as *Bois Tan*. The narrow leaves are shining green above and rusty brown beneath, and the yellow flowers, followed by acid, edible fruits of the same color, make the tree a showy ornamental. The tough, light wood is useful for general construction, and the bark is a source of tannin.

For previous introduction see S. P. I. No. 58370.

62007. DAVIDIA INVOLUCRATA Baill. Cornaceae. Dove tree.

From Paris, France. Seeds presented by A. Gerard. Received November 18, 1924.

The dove tree, as this is sometimes called, is a native of the mountainous forests of central and western China, and was first introduced into western cultivation by E. H. Wilson of the Arnold Arboretum, who gives an account of his search for this plant in the Country Gentleman for August, 1926. After a number of disappointments Mr. Wilson finally discovered a number of trees in the neighborhood of Ichang, Hupeh, China, and collected a quantity of seeds.

In its native home this tree becomes 75 feet high, with a shapely pyramidal crown. When in bloom the tree is unusually striking because of the two or three large, snow-white bracts which subtend each flower. These bracts are unequal in size, the largest being 4 to 8 inches long and 2 to 4 inches wide. The bright-green, oval, sharply toothed leaves are 3 to 6 inches long.

62008. EUCRYPHIA PINNATIFOLIA Gay. Eucryphiaceae.

From Kew, Surrey, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received November 24, 1924.

An evergreen shrub from 3 to 10 feet high, which is particularly attractive because of its large, white flowers, $2\frac{1}{2}$ to 3 inches across, not unlike a large, single rose with a tuft of stamens in the center. It does best in a rather moist situation protected from the strongest rays of the sun.

For previous introduction see S. P. I. No. 49271.

62009 and 62010.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received November 26, 1924.

62009 to 62010—Continued.

62009. ARTOCARPUS sp. Moraceae.

No. 1. October 1, 1924. *Hung Kwai Muk*. Collected by G. W. Groff from a tree on the campus of the Canton Christian College. A very ornamental tree, 5 meters (approximately 16 feet) high, with a spreading habit and glossy foliage. The tree bears abundantly, round, greenish yellow-brown fruits about the size of a large plum, with a pleasant acid flavor. The fruits can be made into a jam which resembles cherry preserves in color and flavor. Due to a certain roughness of the skin, which is not evident to the eye, the fruit is unfortunately a little difficult to eat out of hand. (McClure.)

62010. GORDONIA AXILLARIS (Roxb.) Szyszyl. Theaceae.

No. 2. October 9, 1924. Collected on Hongkong Island in a wooded ravine at 300 meters (approximately 1,000 feet) altitude in decomposed granite soil. A beautiful shrub, 2 to 4 meters (approximately 7 to 14 feet) in height, with thick, glossy foliage and delicate, ephemeral, white flowers 3 to 4 centimeters (approximately 1 to 2 inches) in diameter. (McClure.)

62011. AMYGDALUS COMMUNIS L. (*Prunus amygdalus* Stokes). Amygdalaceae. Bitter almond.

From Serai, Bagdad, Mesopotamia. Seeds presented by G. S. Cameron, officiating director of agriculture. Received December 1, 1924.

Seeds of the bitter almond, introduced for comparison and cultural tests.

62012. DEUTZIA LONGIFOLIA Franch. Hydrangeaceae.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received December 1, 1924.

Among the many attractive species of *Deutzia*, this is considered to be one of the handsomest, according to the *Gardeners' Chronicle* (ser. 3, vol. 51). It comes from western China and is a shrub about 6 feet high, with narrow leaves, whitish below, and rosy flowers, about an inch across, produced in rounded clusters 2 to 3 inches in diameter.

62013. CHAMAEDOREA ELEGANS Mart. Phœnicaceae. Pacayito.

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received December 4, 1924.

The pacayito, a handsome dwarf palm native to Mexico and Central America, is an excellent ornamental house plant, and will tolerate shade to a greater extent than many other plants. It often comes into flower when not over a foot high, and the deep-green, finely pinnate, graceful leaves are very attractive. Excessive atmospheric aridity, such as frequently prevails in artificially heated rooms, is likely to prove unfavorable to this palm.

62014. RUBUS GLAUCUS Benth. Rosaceae. Andean raspberry.

From Ibarra, Ecuador. Seeds presented by Sr. José Felix Tamayo. Received December 3, 1924.

The Andean raspberry is half climbing in habit and a vigorous grower. It covers arbors and fences or can be trained into bush form, making a clump about 10 feet broad and high. The stems are round and cov-

ered with a thick whitish bloom; the leaves are trifoliate, with the leaflets ovate-lanceolate, long-acuminate, serrate, about 3 inches in length, light green above and whitish below. The flowers are produced in terminal racemes sometimes a foot in length; they are white and about an inch in diameter. The fruits are oblong-oval, often an inch long, and composed of a large number of drupelets crowded closely together. The seeds are not so large as to be troublesome in the mouth, nor are they hard; the flavor resembles that of certain northern raspberries, being rich, aromatic, and very pleasant. Although excellent when eaten with sugar and cream, the fruit is more commonly used in Ecuador to prepare a sweet conserve or the sirup made in Otavalo called *jarone de mora*, from which an excellent refresco is made.

The plant grows in soils of various types, from clay to light sandy loam. It will probably require intelligent pruning to make it fruit abundantly. I believe it possesses great possibilities when cultivated in the southern and southwestern United States, since its fruits are larger than any of the raspberries we now grow and are of excellent quality. (Wilson Popenoe, Bureau of Plant Industry.)

For previous introduction see S. P. I. No. 52717.

62015 and 62016. PIROCYDONIA spp. Malaceæ.

From Ille et Vilaine, France. Plants presented by Lucien Daniel. Received December 11, 1924. Notes by Mr. Daniel.

Graft hybrids between the pear and quince.

62015. PIROCYDONIA DANIELI Winkler.

A small shrub, resembling the quince in general habit, cultivated in the gardens of the Faculté des Sciences, at Rennes, France. This graft hybrid arose from an old pear grafted on quince stock. These seedlings are grafted on pear stock.

62016. PIROCYDONIA WINKLERI Daniel.

One of the pear grafts on the old quinces in the garden of St. Vincent College gave rise to a sucker of distinct character; this was called *Pirocydonia winkleri* by Mr. Daniel. The shoots and leaves are pubescent, unlike those of the pear. The leaves are short stemmed like the quince, but are lanceolate like the pear. A very peculiar thing about this hybrid is that it had its origin below the point of union of the graft and stock.

62017 and 62018. CASUARINA spp. Casuarinaceæ.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department, through C. V. Piper, Bureau of Plant Industry. Received December 2, 1924.

62017. CASUARINA STRICTA Ait.

This tree, commonly cultivated in California, but more rare in Florida, is a fairly hardy species making a low, often shrubby, growth. It is conspicuous on account of its very thick, often pendulous branches and very big cones. In appearance it is not so elegant as some of the other casuarina, but it is very striking and is also of some economic value. The branchlets are said to be a favorite forage of Australian cattle. The wood is especially valuable for shingles and posts.

62017 and 62018—Continued.

62018. CASUARINA SUBEROSA Otto and Dietr.

A tree 30 to 40 feet tall, quite similar to *Casuarina equisetifolia*, with smooth, slender branchlets. It is considered a valuable fodder tree in the interior districts of Australia which are subject to drought. The wood is of great beauty for cabinetwork, but should be used only in veneers, as it is apt to split in drying.

For previous introduction see S. P. I. No. 56564.

62019. TROPÆOLUM SPECIOSUM Poepp. and Endl. Tropæolaceæ.

Vermilion nasturtium.

From Elstree, Herts, England. Seeds presented by Hon. Vicary Gibbs, Aldenham House, through David Fairchild, Bureau of Plant Industry. Received November 12, 1924.

No. 24. This is the most attractive little vine which I have seen in Great Britain. Its brilliant scarlet blooms and delicate foliage make it a unique ornamental. (Fairchild.)

62020 and 62021. JASMINUM spp. Oleaceæ.

From Nogent sur Marne, Seine, France. Presented by the Directeur de l'Institut National d'Agronomie Coloniale. Received December 16, 1924.

62020. JASMINUM FRUTICANS L. Jasmine.

A half-evergreen, shrubby jasmine from the Mediterranean region, with a dense mass of slender, erect stems 3 to 5 feet high, and smooth, deep-green leaflets. The fragrant yellow flowers are produced in early summer, usually in threes or fives at the ends of short twigs, and the round, shining-black fruits are the size of peas.

62021. JASMINUM PRIMULINUM Hemsl. Primrose jasmine.

An evergreen, rambling shrub, 6 to 10 feet high, native to western China. The dark, glossy green leaflets forming a background for the fragrant bright-yellow flowers make the shrub very handsome in spring and early summer.

62022 to 62025.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens, through David Fairchild, Bureau of Plant Industry. Received December 12, 1924.

62022. DAVIDIA INVOLUCRATA VILMORINIANA (Dode) Hemsl. Cornaceæ. Dove tree.

A handsome tree from western China which, according to Horticulture (vol. 10, p. 433), becomes 60 to 70 feet in height; in habit and foliage it resembles a linden. The bright-green, oval leaves 3 to 6 inches long are sharply toothed and slender stalked, and the globular heads of small flowers, borne on slender nodding stalks about 2 inches long, appear in May and are made unusually striking by the two or three large bracts. These bracts are of unequal size, the largest being from 4 to 7 inches long and 2 to 4 inches broad.

For previous introduction see S. P. I. No. 55913.

62022 to 62025—Continued.

62023. *ERICA ARBOREA ALPINA* Dieck.
Ericaceae. Heath.

An evergreen bushy heath which is native in the mountainous region of Cuenca, Spain, and has proved hardy at the Royal Botanic Gardens, Kew, England. The dull-white flowers are produced in stiff, pyramidal clusters, but the chief beauty of the plant lies in the rich, cheerful green color of the foliage, which, in England, lasts throughout the winter.

62024. *PLATANUS ACERIFOLIA* Willd. Platanaceae. Plane tree.

The London plane, of garden origin, is a tree up to 100 feet in height and is supposed to be a hybrid between *Platanus orientalis* and *P. occidentalis*. In characters it is intermediate between the two. It resembles the American plane in foliage and is of more pyramidal habit than the European species.

62025. \times *QUERCUS LUCOMBEANA* Sweet. Fagaceae. Oak.

A handsome, sturdy oak, a hybrid between *Quercus suber* and *Q. cerris*. It produces fertile acorns, from which have been raised numerous seedling forms of widely varying characters.

62026. *MALUS SIKKIMENSIS* (Hook. f.) Koehne (*Pyrus sikkimensis* Hook. f.). Malaceae. Sikkim crab.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens, through David Fairchild, Bureau of Plant Industry. Received December 12, 1924.

The Sikkim crab is a small tree which grows wild in the interior of Sikkim, India, at altitudes up to 10,000 feet. The narrowly oval leaves are very woolly beneath, and the white flowers, rosy in the bud, are about an inch across and are borne very freely in 4 to 8 flowered clusters. The pear-shaped fruits are dark red with paler dots and are about half an inch wide.

For previous introduction see S. P. I. No. 58491.

62027 to 62029.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, regius keeper, Royal Botanic Garden. Received November 17, 1924.

62027 and 62028. *BOMAREA* spp. Amaryllidaceae.

62027. *BOMAREA CALDASHII* (H. B. K.) Herbert.

A twining plant of the amaryllis family, native to the Andes of Peru. The thin, spreading leaves are 3 to 6 inches long, and the flowers, orange-yellow with crimson spots, are about an inch long and borne in many-flowered pendulous clusters.

62028. *BOMAREA CARDERI* Masters.

This Colombian species is the most beautiful of the entire genus, according to J. N. Rose, of the United States National Museum. The broadly oblong leaves are 4 to 6 inches long, and the pale-pink flowers, spotted with brown near the top of the perianth, are in large clusters about a foot long.

62029. *PASSIFLORA HERBERTIANA* Ker. Passifloraceae.

Many of the passion flowers are charming ornaments. This Australian species is a tall climber with 3-lobed, heart-shaped leaves and white flowers.

62030. *DAVIDIA INVOLUCRATA* VILMORINIANA (Dode) Hemsl. Cornaceae.

Dove tree.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered October, 1924.

A handsome, hardy Chinese tree of pyramidal habit, differing from the typical form in leaf characters, and perhaps less winter hardy. The white floral bracts make a striking contrast with the bright-green foliage.

62031 to 62059.

From Montevideo, Uruguay. Seeds presented by Juan R. Piñeyro, secretary, Consejo Directivo Federación Rural. Received November 24, 1924.

62031. *AGROSTIS MONTEVIDENSIS* Spreng. Poaceae. Grass.

A caespitose, perennial Uruguayan grass, with slender leaves up to a foot in length.

62032. *ANDROPOGON LATERALIS INCANUS* (Hack.) Henr. Poaceae. Grass.

An erect perennial grass, up to 7 feet in height, with thick, fibrous rhizomes and hard, narrow leaves. Native to Uruguay.

62033. *ANDROPOGON SACCHAROIDES* Swartz. Poaceae. Grass.

An erect, or ascending perennial grass, with cylindrical canes and narrow, flat leaves prolonged to a fine point. It is very variable in character and is distributed throughout tropical and subtropical America.

62034. *BOUPELOUA MEGAPOTAMICA* (Spreng.) Kuntze. Poaceae. Grass.

An erect, caespitose perennial grass, with narrow, spikelike panicles.

62035. *BROMUS WILLDENOWII* Kunth. Poaceae. Grass.

An annual or biennial grass, 1 to 2 feet high, said to be good for forage.

62036. *CALAMAGROSTIS MONTEVIDENSIS* Nees. Poaceae. Grass.

A perennial erect grass, with woody rhizomes and straight, unbranched canes, 1 to 2 feet high. The handsome, reddish violet panicles are 6 to 8 inches long. Native to Uruguay.

62037. *CAPRIOLA DACTYLON* (L.) Kuntze (*Cynodon dactylon* Pers.). Poaceae.

Bermuda grass.

Introduced for special comparison tests.

62038. *CHAETOCLOA ONURUS* (Griseb.) Scribn. and Merr. (*Setaria onurus* Griseb.). Poaceae. Grass.

A slender-stemmed grass, 1 to 4 feet high, with a creeping root and linear leaves. Native to tropical America.

62039 to 62042. *CHLORIS* spp. Poaceae. Grass.

62039. *CHLORIS CANTERAI* Arech.

An erect perennial, Uruguayan grass, with somewhat bulbous rhizomes, erect canes 2 to 3 feet high, and narrow leaves.

62040. *CHLORIS CARABAEA* Spreng.

An annual, erect, leafy grass, native to the West Indies, with linear, flat leaves about a foot high.

62031 to 62059—Continued.

62041. *CHLORIS CILIATA* Swartz.

A perennial grass with erect stems 10 to 20 inches high. Native to Uruguay.

62042. *CHLORIS ULIGINOSA* Hack.

An erect, probably annual, grass about a foot high, with rigid linear leaves. Native to Uruguay.

62043. *ERIOCHLOA PUNCTATA* (L.) Hamilt. Grass.

A perennial grass with erect stems, about 4 feet high; distributed throughout tropical and subtropical America. Grows usually in damp places and is said to be good forage.

62044. *MANISURIS SELLOANA* (Hack.) Kuntze. Grass.

A caespitose suberect grass, common in Uruguay. The slender canes are about a foot high.

62045. *PANICUM BERGI* Arech. Grass.

A rather densely caespitose grass, 1 to 2 feet high, with a bulbous rhizome and very narrow leaves. Native to Uruguay.

62046 to 62052. *PASPALUM* spp. Grass.62046. *PASPALUM BARBIGERUM* Kunth.

A smooth, caespitose grass, native to South America, with stiff, erect culms 20 to 40 inches high.

62047. *PASPALUM DILATATUM* Poir.

This grass has long been introduced in the Southern States, where it is widely distributed. It is a valuable grass for pasturage, particularly on rich land, and not infrequently is cut for hay. It goes very commonly under the name of Dallis grass but is sometimes called water grass and not infrequently simply paspalum. The grass is a native of Argentina, but is now extensively cultivated in Australia, New Zealand, South Africa, and in general throughout the Tropics. (C. V. Piper, Bureau of Plant Industry.)

62048. *PASPALUM LARRANAGAI* Arech.

A hardy grass, 5 or 6 feet in height, much relished by stock; good for growing in moist land.

62049. *PASPALUM NOTATUM* Fluegge.

A perennial grass which has shown promise as a pasture grass in the southern United States; now introduced for further testing in that region.

62050. *PASPALUM Plicatulum* Michx.

An upright, caespitose, perennial Uruguayan grass, about 3 feet high.

62051. *PASPALUM PROLIFERUM* Arech.

A stoloniferous, caespitose, perennial grass with numerous, slender culms and very narrow leaves. Native to Uruguay, and grows in sandy places.

62052. *PASPALUM* sp.62053. *SPOROBOLUS BERTEROANUS* (Trin.) Hitchc. and Chase. Grass.

An annual, erect, bunch grass, with long, slender, spikelike panicles.

62031 to 62059—Continued.

62054. *STENOTAPHRUM SECUNDATUM* (Walt.) Kuntze. Grass.

A broad-leaved grass, extensively employed in Rio de Janeiro as a lawn grass.

62055 to 62058. *STIPA* spp. Grass.62055. *STIPA CHARRUANA* Arech.

A perennial, slender-stemmed, Uruguayan grass with woody rhizomes and erect culms, about 2 feet high.

62056. *STIPA HYALINA* Nees.

The somewhat bulbous rhizomes of this South American perennial grass send up rather woody culms about 2 feet high with very narrow leaves.

62057. *STIPA PAPPOSA* Nees.

A perennial Uruguayan grass of caespitose habit, with a fibrous rhizome, and slender culms about 20 inches high.

62058. *STIPA SETIGERA* Presl.

A perennial subcaespitose grass, about 20 inches high. Native to southern South America.

62059. *TRIODIA BRASILIENSIS* (Nees) Lindm. Grass.

An erect, tufted perennial grass, native to Brazil, with flat leaves.

62060 to 62073.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received November 25, 1924.

62060. *ANDROPOGON CONSANGUINEUS* Kunth. Grass.

No. 18. Near Teniente Origone. A slender-stemmed grass, 6 to 20 inches in height, native to southern South America.

62061. *ANDROPOGON SACCHAROIDES* Swartz. Grass.

No. 20. Teniente Origone. A rather coarse, perennial grass, native to tropical America, with stems 1 to 3 feet high and attractive dense, silvery panicles.

62062. *ARISTIDA* sp. Grass.

No. 11. Near Choele Choele.

62063. *ARISTIDA* sp. Grass.

Near Teniente Origone.

62064. *BROMUS UNIOLOIDES* (Willd.) H. B. K. Grass.

No. 7. Puerto Madryn. An annual or biennial grass, 1 to 2 feet high, native to South America; it has been cultivated occasionally in the Southern States for winter forage.

62065. *BROMUS* sp. Grass.

Near Teniente Origone.

62066. *CHLORIS ARGENTINA* (Hack.) Lillo and Parodi. Grass.

No. 19. Teniente Origone. An erect, perennial grass, 1 to 3 feet high, native to sandy places in Argentina.

62067. *HORDEUM MURINUM* L. Grass.

No. 10. Near Puerto Madryn. An annual European grass, a foot or more in height, with numerous rhizomes, and flat leaves about 6 inches long.

62060 to 62073—Continued.

62068. *POA LANUGINOSA* Poir. Poaceæ.
Grass.

No. 13. Near Puerto Madryn. A perennial grass, 1 to 2 feet in height, with very narrow leaves and erect spikes about 4 inches long. Native to southern South America.

62069. *SPOROBOLUS RIGENS* (Trin.) E. Desv. Poaceæ. Grass.

No. 8. Puerto Madryn. A perennial grass, with stiff upright, leathery leaves, and large whitish panicles. Native to Chile.

62070 to 62073. *STIPA* spp. Poaceæ.
Grass.

62070. *STIPA CHUBUTENSIS* Speg.

No. 2. Puerto Madryn. A perennial, cespitose grass which, according to Spegazzini (Anales del Museo Nacional de Montevideo, vol. 4) grows in rocky fields in Chubut, Argentina, attaining a height of about 8 inches.

62071. *STIPA HUMILIS* Brot.

No. 4. Puerto Madryn; No. 5. Near Puerto Madryn; No. 12. Near Chubut; No. 13. Near Choele Choele.

According to Spegazzini (Anales del Museo Nacional de Montevideo, vol. 4) this is a perennial grass of densely cespitose habit, with rigid leaves up to a foot high. Native to rocky situations in southern Argentina.

62072. *STIPA HYPOGONA* Hack.

No. 1. Puerto Madryn. A perennial grass, with erect, terete culms about a foot high. Native to Argentina.

62073. *STIPA NEAEI* Nees.

Nos. 6 and 9. Puerto Madryn. A perennial grass, native to arid, stony places in southern Argentina, which is described (Spegazzini, Anales del Museo Nacional de Montevideo, vol. 4) as erect or ascending, with culms up to 4 feet in height, rigid, sedgelike leaves, and purplish glumes.

62074. *PYRACANTHA CRENULATA* (Don) Roemer. Malaceæ. Firethorn.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered October, 1924.

Var. *rogersiana*. A rapid-growing Hima-layan shrub which produces an abundance of white flowers in early summer; these are succeeded by a profusion of bright-red berries. Probably this shrub is suited best for mild-wintered sections of the United States.

62075 to 62083.

From Argentina. Seeds secured by H. L. Westover, Bureau of Plant Industry. Received December 1, 1924.

62075. *GOURLIEA SPINOSA* (Molina) Skeels. Fabaceæ. Chañal.

Collected along the Rio Negro. A small, ornamental tree 12 to 15 feet high, with long, thick branches terminating in spines. The flowers, orange streaked with red, are in loose racemes, and the fruits, about an inch in diameter, have a pulp resembling the jujube in flavor.

62076. *MEDICAGO LUPULINA* L. Fabaceæ. Black medic.

From Trelew Plaza, Chubut.

62075 to 62083—Continued.

62077 to 62079. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

62077. Chilean alfalfa grown from seeds originally brought from San Jose de Maipo, Rio Claro, Brazil.

62078. Peruvian alfalfa grown from seeds originally brought from the high mountains near Arequipa, Peru.

62079. Provence alfalfa grown from seeds originally brought from Provence, France.

62080. *PROSOPIS STROMBULIFERA* (Lam.) Benth. Mimosaceæ.

"Screw bean." From a valley near Rio Negro, Choele Choele. This grows commonly in the Mendoza Desert and is a low shrub not over 12 inches high. Its peculiar screw-shaped pods look like bright-yellow spikes of flowers a short distance away. The pods hang on long after the leaves have fallen.

For previous introduction see S. P. I. No. 43386.

62081. *PROSOPIS* sp. Mimosaceæ.

Collected between the Rio Chubut and Rio Negro.

62082. *TRIFOLIUM REPENS* L. Fabaceæ. White clover.

From Trelew, Chubut.

62083. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ. Common wheat.

Barletta. From the Chubut Mercantile Co., Trelew, Chubut.

62084 to 62088. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

From Chubut Province, Argentina. Seeds presented through H. L. Westover, Bureau of Plant Industry. Received December 1, 1924. Notes by Mr. Westover.

62084. Presented by William H. Williams; from near Gaiman. Chubut, Argentina.

62085. Presented by William D. Owen, from near Trelew.

62086. Presented by Mrs. R. L. Owen, Saltland, from near Dolabon.

62087. From Chacre, Dolabon.

62088. Presented by J. H. Rowlands, from near Gaiman.

62089 to 62092. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

From Chile. Seeds obtained through H. L. Westover, Bureau of Plant Industry. Received December 1, 1924. Notes by Mr. Westover.

62089. Hacienda of Sproa, Salanue y Miriel.

62090. Serena, Coquimbo.

62091. Ovalle, Coquimbo.

62092. Hurtado, Coquimbo.

62093 to 62098.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received November 17, 1924.

62093. *ACANTHOSABAL CAESPITOSA* Proschowsky. Phenicaceæ. Palm.

A spiny-stemmed palm.

62093 to 62098—Continued.

62094. *BESCHORNERIA BIGELOWII* Hort. Anaryllidaceæ.

A very drought-resistant, ornamental succulent plant, hardy at Nice. (*Proschowsky*.)

62095. *MIMOSA ACULEATICARPA* Ortega (*M. acanthocarpa* Poir.). Mimosaceæ.

Very drought resistant; the best hedge plant I know, absolutely impenetrable. (*Proschowsky*.)

62096. *PINUS CANARIENSIS* C. Smith. Pinaceæ. Canary pine.

Rapid-growing timber tree. (*Proschowsky*.)

A pine, native to the Canary Islands, which thrives in warm temperate climates. It is suited to nearly all soils and has a straight trunk even when it grows in an isolated position. The wood of this pine, known in the Canary Islands as "tea," is very hard, very difficult to work, but unequalled for duration and building purposes because it does not rot.

62097. *RAPHIOLEPIS UMBELLATA* (Thunb.) C. Schneid. (*R. japonica* Sieb. and Zucc.). Malaceæ.

Fresh seeds of a beautiful evergreen, very hardy bush which will, I think, thrive in the southeastern parts of the United States, at least as far as North Carolina. (*Proschowsky*.)

62098. *VIBURNUM* sp. Caprifoliaceæ.

To be grown to ascertain its horticultural value.

62099. *ARACHIS NAMBYQUARAE* Hoehne. Fabaceæ. Peanut.

From Rio de Janeiro, Brazil. Seeds presented by F. W. Hoehne, Comissão de Linhas Telegraficas Estrategis de Matto Grosso ao Amazonas. Received December 10, 1924.

A Brazilian relative of the peanut, which, according to Hoehne (*Historia Natural Botânica*, Matto Grosso, Brazil, Part XII) is a much-branched, prostrate or ascending plant. The pod is 2 to 3 inches long, usually having two seeds which are edible and very oily.

62100. *CICER ARIETINUM* L. Fabaceæ. Chick-pea.

From Bengal, India. Seeds presented by D. Dutta, second economic botanist. Received December 10, 1924.

Introduced for trial as stock feed in the southwestern United States.

62101 and 62102.

From Benenden, Kent, England. Plants presented by Capt. Collingwood Ingram. Received December 20, 1924.

62101. *PRUNUS SERRULATA* Lindl. Amygdalaceæ. Flowering cherry.

Var. *kojima*. A variety of Japanese flowering cherry which has very large, pure-white flowers which are somewhat campanulate and semidouble; these are produced in a long-stemmed, drooping corymb, and are slightly fragrant. The tree is quick growing and very vigorous. (*Ingram*.)

62102. *VIOLA* sp. Violaceæ. Violet.

A pink-flowered violet.

62103 to 62108.

From Litterliver, Fla. Seeds presented by Charles T. Simpson. Received December 17, 1924.

These seeds were sent to Mr. Simpson by Dr. B. E. Dahlgren, Field Museum of Natural History, Chicago, Ill.

62103. *RHYTICOCOS AMARA* (Jacq.) Bccari (*Cocos amara* Jacq.). Pheniceæ Palm.

A tall, feather-leaved palm, 50 to 100 feet in height, with a winged trunk. It is native to Martinique, French West Indies, and is closely related to the coconut.

62104. *LICUALA SPINOSA* Thunb. Pheniceæ Palm.

A dwarf, fan-leaved, West Indian palm, 10 to 12 feet high, with roundish leaves 3 feet or more in diameter and 3-angled stems armed with brownish hooked spines. It requires abundant moisture and heat.

62105. *INODES BLACKBURNIANA* (Glazeb.) O. F. Cook (*Sabal blackburniana* Glazeb.). Pheniceæ Palm.

The trunk of this West Indian palm is spineless, about 40 feet high, and thickened in the middle, and the rather rigid leaf blade is round, with about 40 sword-shaped segments. The pear-shaped fruits are an inch and a half long.

62106. *SABAL MAURITIAEFORMIS* (Karst.) Griseb. and Wendl. Pheniceæ Palm.

A handsome West Indian palm with a trunk 60 to 80 feet in height and over a foot in diameter, and large, roundish leaves multifold to the middle, up to 12 feet in diameter. The black fruits are about the size of peas.

62107. *SIMAROUBA AMARA* Aubl. Simaroubaceæ.

A tall, evergreen, tropical American tree with alternate, leathery, pinnate leaves and yellowish white flowers with spreading petals. It yields a drug known as simaruba bark.

62108. *TABEBUIA SERRATIFOLIA* (Vahl) Nicholson. Bignoniaceæ.

A West Indian relative of the trumpet creeper of the northern United States (*Tecoma radicans*); it is a handsome evergreen tree, with digitate leaves and terminal panicles of yellow flowers.

62109. *RODGERSIA PURDOMII* Hort. Saxifragaceæ.

From Langley Slough, England. Plants purchased from J. C. Allgrove, Middle Green. Received December 22, 1924.

A very attractive, hardy Chinese perennial with large, feathery panicles of creamy white flowers. It is said to thrive best in a somewhat moist, peaty soil.

62110 to 62115.

From Kew, England. Cuttings presented by Dr. A. W. Hill, director, Royal Botanic Gardens, through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received December 31, 1924.

62110. \times *POPULUS EUGENI* Simon-Louis. Salicaceæ. Poplar

An unusually large and vigorous poplar, which is described by Bean (*Trees and Shrubs Hardy in the British Isles*)

as a probable hybrid between the Lombardy poplar and *Populus marilandica* or *P. regenerata*, but its origin is not definitely known. The tree originated at the nursery of Simon & Louis, near Metz, Lorraine, about 1832, as a seedling, and was still standing in 1904, when it measured 150 feet in height, with a trunk 38 feet in circumference at the base.

62111. X *POPULUS GENEROSA* A. Henry. Salicaceæ. Poplar.

This hybrid poplar is, according to its originator, Augustine Henry, intermediate in characters between its parents, *Populus angulata* and *P. trichocarpa*. The leaves are coarsely serrate and pale gray beneath. The tree is a rapid grower and unusually vigorous.

For previous introduction see S. P. I. No. 58646.

62112. *AMYGDALUS COMMUNIS* L. (*Prunus amygdalus* Stokes). Amygdalaceæ. Almond.

Var. *macrocarpa*. A large-fruited variety which is also excellent as an ornamental.

62113. *PRUNUS MAACKII* Rupr. Amygdalaceæ. Amur cherry.

A Manchurian bird cherry, 40 feet or more in height, with very smooth brownish yellow bark which peels off like that of a birch. The leaves are pointed and very finely toothed, and the white flowers are in short racemes borne on the previous season's wood.

For previous introduction see S. P. I. No. 57310.

62114. *RUBUS THIBETANUS* Franch. Rosaceæ.

The bluish purple stems and handsome pinnate foliage make this shrub one of the most attractive of the Chinese species of *Rubus*, according to W. J. Bean (*Trees and Shrubs Hardy in the British Isles*). In habit it is erect, becoming about 6 feet high, and the dark-green leaves are white felted below. The purple flowers, half an inch across, are succeeded by bluish-black berries.

For previous introduction see S. P. I. No. 53538.

62115. *SALIX MATSUDANA* Koidz. Salicaceæ. Willow.

An eastern Asiatic willow about 40 feet in height, with ascending or pendulous, greenish branches, and narrowly lanceolate leaves 2 to 4 inches long. Observations made in northeastern China by Frank N. Meyer indicate that this willow thrives in regions having a scanty rainfall.

62116 to 62123. *PISUM SATIVUM* L. Fabaceæ. Pea.

From Cambridge, England. Seeds presented by F. T. Engledow, School of Agriculture. Received December 19, 1924.

62116 to 62119. From Bohemia.

62116. P. 63. 62118. P. 65.

62117. P. 64. 62119. P. 66.

62120 to 62123. From Tibet.

62120. (a). 62122. (c).

62121. (b). 62123. (d).

62124 to 62126. *SACCHARUM OFFICINARUM* L. Poaceæ. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo Fortun, director, Estación Experimental Agronómica. Received December 20, 1924.

62124. Cuba 35. **62125.** C. H. 64/21.

62126. Cuba del Cubana.

62127 and 62128.

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received December 30, 1924.

62127. *DELPHINIUM PYLZOWI* Maxim. Ranunculaceæ. Larkspur.

A Chinese larkspur originally collected in Kansu by Przewalski, and described (Bulletin de l'Académie Impériale, St. Petersburg, vol. 23, p. 307) as having a leafy stem, 5-parted leaves, and attractive flowers with violet sepals and blackish petals.

62128. *MAGNOLIA WILSONII* (Finet and Gagn.) Rehd. Magnoliaceæ.

In habit this Chinese magnolia is a large shrub; it was first discovered in western Szechwan by E. H. Wilson, and appears to be a valuable horticultural addition to this already popular genus. The flowers, which are pure white and delicately fragrant, are produced freely during late May and early June.

62129. *CASTANEA MOLLISSIMA* Blume. Fagaceæ. Hairy chestnut.

From Nanking, China. Seeds presented by Dr. J. H. Reissner, University of Nanking. Received November 14, 1924.

A hardy, blight-resistant chestnut from northern China, producing nuts of good quality, closely resembling our native chestnut in size, shape, and color.

62130. *VIGNA SINENSIS* (Torner) Savi. Fabaceæ. Cowpea.

From Taillungyuan, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 8, 1924.

No. 809. October 7, 1924. Red and white seeded cowpea from one of the village farmers. This is one of the two chief varieties grown around here. (Dorsett.)

62131. *CANNA* sp. Cannaceæ. Canna.

From Summit, Canal Zone. Seeds presented by Holger Johansen, agronomist, Plant Introduction Gardens. Received December 30, 1924.

A dark-red canna, quite common here and of ornamental value. (Johansen.)

62132 to 62140.

From China. Bulbs and tubers collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 20, 1924. Notes by Mr. Dorsett.

62132. *ALLIUM* sp. Liliaceæ. Onion.

No. 1095. Peking. October 31, 1924. Bulbs of Chinese "garlic." The Chinese use garlic in many forms and especially in their cooking.

62132 to 62140—Continued.

62133 and 62134. *Dioscorea* sp. Dioscoreaceae. Yam.

62133. No. 1058. Peking. October 31, 1924. Tubers of a Chinese variety *Shan Yoo* (mountain medicine).

62134. No. 1094. Peking. October 31, 1924. Aerial tubers purchased in the market. These tubers are said to be from the same vine which produce the long ground tubers, No. 1058 [S. P. I. No. 62133].

62135 to 62140. *Solanum tuberosum* L. Solanaceae. Potato.

62135. No. 1096. Peking. October 31, 1924. Tubers of a good-looking potato purchased in the market. It is said that these potatoes are also shipped in from Tientsin.

62136. No. 1097. Peking. October 31, 1924. Tubers of an oblong, medium-sized potato shipped in to the market from Tientsin.

62137 and 62138. October 31, 1924. Tubers purchased in the Peking market.

62137. No. 1098. Tubers of a rather small, oblong, purplish potato shipped in to the market from Kalgan.

62138. No. 1099.

62139. No. 1312. Huangan, Chihli. November 8, 1924. These tubers are white or tinged with a delicate shade of pink, and though not so very large they are of fair appearance.

62140. No. 1313. Huangan, Chihli. November 8, 1924. Tubers of a rather small, purple-skinned potato. The Chinese say that this variety is dug in the fall.

62141. *Calophyllum calaba* L. Clusiaceae.

From Summit, Canal Zone. Seeds presented by Holger Johansen, Plant Introduction Garden. Received November 18, 1924.

A West Indian relative of the mangosteen (*Garcinia mangostana*) which is known as the Calaba tree; it becomes 60 feet high, with dark-green, glossy foliage and axillary clusters of white flowers. The wood is used for building purposes, and the oil pressed from the seeds is sometimes used, in Porto Rico, in lamps.

62142 to 62158.

From China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December, 1924. Notes by Mr. Dorsett.

62142. *Corylus* sp. Betulaceae. Hazel.

No. 1297. November 8, 1924. Scions collected between Shihchiaying and Huangan. This hazel is reported to bear flattened nuts in place of the conical nuts like those sent in under No. 799 [S. P. I. No. 62170].

62143. *Diospyros kaki* L. f. Diospyraceae. Kaki.

No. 1229. November 6, 1924. Scions from a large orchard near Hielungkuan. The fruits are 4 inches or more in diameter.

62144 to 62146. *Juglans regia* L. Juglandaceae. Walnut. Scions.

62142 to 62158—Continued.

62144. No. 1285. November 8, 1924.

From a good-looking young tree growing in a canyon between Shihchiaying and Huangan.

62145. No. 1314½. November 9, 1924.

From a good-looking tree growing in a terraced orchard a short distance above Taho, Chihli.

62146. No. 1315½. November 9, 1924.

From a large good-looking tree growing in a terraced orchard just above Taho, Chihli.

62147. *Populus* sp. Salicaceae. Poplar.

No. 1296. November 8, 1914. Cuttings obtained from small suckers and plants growing between Shihchiaying and Huangan.

62148 to 62151. *Prunus armeniaca* L. Amygdalaceae. Apricot.

Scions.

62148. No. 1403. November 11, 1924.

From an old tree measuring 56 inches in circumference, growing in an old Chinese cemetery near Yenchia, Chihli. This tree is said to bear large, long fruits with golden-yellow flesh which separates easily from the stone.

62149. No. 1404. November 11, 1924.

A large, red-fruited apricot with dark-yellow flesh, from a terraced mountain side between Yenchia and Menloukou, Chihli.

62150. No. 1405. Honantai, Chihli.

November 11, 1924. A reddish-green apricot having large fruit; from an orchard located on a terraced mountain side.

62151. No. 1406. Honantai, Chihli.

November 11, 1924. An apricot known here as the *Kan Ke Lo*. This is said to be a good-sized apricot having yellow flesh which separates easily from the stone.

62152. *Rosa* sp. Rosaceae. Rose.

No. 1290. November 8, 1924. Cuttings collected near an old Chinese temple between Shihchiaying and Huangan, Chihli. The hips are bright red and slender, and the stems are dull red and quite thorny.

62153. *Rubus* sp. Rosaceae.

No. 1291. November 8, 1924. Plants collected between Shihchiaying and Huangan.

62154. *Salix* sp. Salicaceae. Willow.

No. 1295. November 8, 1924. Cuttings of a willow found growing quite abundantly between Shihchiaying and Huangan.

62155 to 62157. *Vitis vinifera* L. Vitaceae. Grape.

62155. No. 1156. Between Peking and Toli. November 3, 1924. Scions of the so-called rose grape, secured from Mr. Tsui.

62156. No. 1173. Menshuiho, Chihli. November 4, 1924. Cuttings of a rose or pink grape procured from Mr. Wang. These plants were growing in sandy loam.

62157. No. 1174. Menshuiho, Chihli. November 4, 1924. Cuttings of a long, white grape, known as "milk grape," procured from Mr. Wang.

62142 to 62158—Continued.

62158. *VITIS* sp. Vitaceæ. Grape.

No. 1292. November 8, 1924. Scions collected between Shihchiaying and Huanggan. This grape may prove useful as an ornamental.

62159 and 62160.

From China. Tubers collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November, 1924. Notes by Mr. Dorsett.

62159. *DIOSCOREA* sp. Dioscoreaceæ. Yam.

No. 789. October 9, 1924. Aerial tubers from a vine growing on the hill just back of the Yung Lo [Ming] tomb, Changling, Chihli.

62160. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceæ. Sweet potato.

No. 796. Nananho. Chihli. October 21, 1924. The flesh of these good-sized sweet potatoes is creamy white with a slight tinge of pink near the skin.

62161 to 62184.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December, 1924. Notes by Mr. Dorsett.

62161 and 62162. *ANDROPOGON ISCHAEMUM* Poaceæ. Grass.

62161. No. 800. October 7, 1924. A grass, called by the Chinese "brush grass," secured in a river bottom area between Tuili and Mentoukou.

62162. No. 801. October 7, 1924. Near Nankow, on the road to the Ming tombs, we found this grass forming a thick mat; the stems and panicles have a reddish cast. It grows on very dry, gravelly soil.

62163 and 62164. *ARACHIS HYPOGAEA* L. Fabaceæ. Peanut.

62163. No. 962. Hsingshon. Chihli. October 12, 1924. From plants growing in river-bottom soil.

62164. No. 1029. Peking. October 22, 1924. Sent in to the market from Taotingfu where considerable quantities of these small peanuts are grown. The Chinese steam these, hulls and all, in a strong salt solution, then dry and shell the nuts. These nuts are chiefly used as salted peanuts.

62165. *CANNABIS SATIVA* L. Moraceæ. Hemp.

No. 931. October 11, 1924. From the Fa Hua Ssu temple grounds, near Haitzu, Chihli.

62166. *CAPSICUM ANNUUM* L. Solanaceæ. Red pepper.

No. 994. Peking. October 17, 1924. A long smooth-skinned, red pepper, procured in the market.

62167. *CARAGANA* sp. Fabaceæ.

No. 905. October 10, 1924. Collected from plants growing on a mountain side near Laochun.

62168. *CELTIS BUNGEANA* Blume. Ulmaceæ. Hackberry.

No. 1014. October 21, 1924. A tree with small, deep-green leaves, and black fruits the size of small peas, growing in the Black Dragon temple grounds.

62161 to 62184—Continued.

62169. *CHAENOMELES* sp. Malaceæ. Chinese quince.

No. 1012. October 20, 1924. Shipped in to the Peking market from Kansu. These fruits have a pleasant fragrance. The flesh is yellow, hard, gritty, and quite acid.

62170. *CORYLUS* sp. Betulaceæ. Hazel.

No. 799. Peking. October 21, 1924. Procured in the market. These hazelnuts, reported to be native Chinese hazel, are the smallest we have ever seen. They may have value for growing as stock plants on which to graft other and larger sorts.

62171. *DOLICHOS LABLAB* L. Fabaceæ. Hyacinth bean.

No. 792. Peking. October 15, 1924. This bean, obtained in the market, is called "French bean" by the Chinese, who use it dried as a vegetable.

62172 to 62174. *FAGOPYRUM VULGARE* Hill (*F. esculentum* Moench). Polygonaceæ. Buckwheat.

62172. No. 864. Chunglang, Chihli. October 9, 1924. Sample of buckwheat obtained from a farmer.

62173. No. 935. Fa Hua Ssu temple, near Taitzu, Chihli. From a mountain valley.

62174. 963. Tangshan (Hot Springs). October 12, 1924. Growing on sandy loam.

62175. *FALCATA EDGEWORTHII* (Benth.) Kuntze. Fabaceæ.

No. 860. Yung Lo [Ming] tomb, Changling, Chihli. October 9, 1924. The seeds are greenish yellow and blotched with black. May prove useful as a ground cover.

62176. *GLEDITSIA SINENSIS* Lam. Cæsalpinaceæ.

No. 1019. Wenchueng, Chihli, October 21, 1924. A good-sized, round-headed tree with compound leaves. The Chinese use the pods in the manufacture of soap.

62177 and 62178. *IRIS DICHOTOMA* Pall. Iridaceæ. Iris.

62177. No. 773. October 9, 1924. Collected across the river from the Yung Lo [Ming] tomb. The flowers are said to be yellow.

62178. No. 774. October 9, 1924. From plants growing in the grounds of the Yung Lo [Ming] tomb.

62179. *LATHYRUS* sp. Fabaceæ.

No. 906. Shalingliang, Chihli. October 10, 1924. Pods collected from a bundle of wild grass brought down from the mountain.

62180. *LESPEDEZA* sp. Fabaceæ.

No. 810. October 7, 1924. Collected between Lunghutai and the Ming tombs.

62181. *LESPEDEZA* sp. Fabaceæ.

No. 866. Nung Lo tomb, near Changling, Chihli. October 9, 1924. Said to be good for goats.

62182. *LESPEDEZA VIRGATA* (Thunb.) DC. Fabaceæ.

No. 925. Fa Hua Ssu temple, near Haitzu. October 11, 1924. A shrubby legume.

62161 to 62184—Continued.

62183. *MELOTHRIA* sp. Cucurbitaceæ.

No. 1027. Peking. October 22, 1924. *Chih Pao* (red parcel). The sweet, melon-like fruits with smooth, red skin are small but quite attractive.

62184. *MENISPERMUM DAURICUM* DC. Menispermaceæ. Asiatic moonseed.

No. 959. Near Hssachunk. October 12, 1924. A vine having ivylike leaves and berries about as large as good-sized peas.

62185. *INDIGOFERA MACROSTACHYA* Vent. Fabaceæ. Indigo.

From Shalingliang, Chihli, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 6, 1924.

No. 908. October 10, 1924. A shrubby plant with hairy leaflets and pink flowers in dense racemes which are longer than the leaves, found growing along the trail near Shalingliang on very poor soil.

62186 to 62229.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December, 1924. Notes by Mr. Dorsett.

62186. *ORYZA SATIVA* L. Poaceæ. Rice.

No. 981. Tatangshan (the Large Hot Spring Mountain), Chihli. October 13, 1924. Seeds obtained from a rice farmer.

62187. *PERILLA FRUTESCENS* (L.) Britton (*P. ocyroides* L.). Menthaceæ. Perilla.

No. 930. Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. The small, gray seeds of this perilla are used for the oil contained in them.

62188 to 62190. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceæ. Adzuki bean.

62188. No. 828. Tailungyuan. October 8, 1924. A mottled black and gray bean; from vines growing in a large persimmon orchard.

62189. No. 857. Lung Lo tomb, Changling, Chihli. October 9, 1924. A pink bean obtained from a farmer.

62190. No. 969. Tangshan (Hot Springs), Chihli. October 12, 1924. A small, dark-blue and gray mottled bean.

62191 and 62192. *PHASEOLUS AUREUS* Roxb. Fabaceæ. Mung bean.

62191. No. 808. Tailungyuan. October 7, 1924. A green mung bean obtained from a farmer.

62192. No. 929. Fa Hua Ssu temple, near Haiszu, Chihli. October 11, 1924. A green mung bean.

62193. *PHASEOLUS CALCARATUS* Roxb. Fabaceæ. Rice bean.

No. 858. Lung Lo tomb, Changling, Chihli. October 9, 1924. A small, creamy-white bean obtained from a farmer.

62194. *PINUS* sp. Pinaceæ. Pine.

No. 868. Nung Lo tomb, near Changling, Chihli. October 9, 1924. This is a low, flat-headed, scraggly pine of a rather peculiar appearance.

62186 to 62229—Continued.

62195. *PYRUS BETULAEFOLIA* Bunge. Malaceæ. Pear.

No. 865. Nung Lo tomb, near Changling, Chihli. October 9, 1924. This tree, 20 or more feet in height, does not show any signs of blight.

62196. *PYRUS* sp. Malaceæ. Pear.

No. 766. October 6, 1924. Seeds of a domesticated Chinese sugar pear found in the district of the Ming tombs, north-east of Peking.

62197. *RICINUS COMMUNIS* L. Euphorbiaceæ. Castor bean.

No. 907. Wanpaochuan, Chihli. October 10, 1924. From the edge of a cultivated field.

62198 to 62208. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

62198. No. 804. Lunghutai. October 7, 1924. This black soy bean is the commonest type grown in this section.

62199. No. 811. Tailungyuan. October 7, 1924. This is the leading variety grown here.

62200. No. 856. Yung Lo tomb, Changling, Chihli. October 9, 1924. A yellow variety.

62201. No. 933. Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. A black variety.

62202. No. 936. October 12, 1924. A yellow variety, mottled with brown, obtained from the priest of the Fa Hua Ssu temple, near Haitzu, Chihli.

62203. No. 937. October 12, 1924. A very dark-brown variety obtained from the priest of the Fa Hua Ssu temple, near Haitzu, Chihli.

62204. No. 964. Tangshan (Hot Springs). October 12, 1924. A creamy yellow variety.

62205. No. 966. Tangshan (Hot Springs). October 12, 1924. A black variety; one of the most important types grown in this sandy loam river-bottom soil.

62206. No. 1013. Chouchiahsiang, Chihli. October 21, 1924. A yellow or creamy yellow variety commonly grown in this section.

62207. No. 1015. Chouchiahsiang, Chihli. October 21, 1924. A black variety commonly grown in this level valley section.

62208. No. 1030. Peking. October 22, 1924. A brown variety streaked with black, called by the Chinese *Hu p't tou* (tiger skin). These soy beans taste very good after being roasted.

62209 to 62211. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ. Common wheat.

62209. No. 863. Nung Lo tomb, Changling. October 9, 1924. This winter wheat has the smallest grain we have ever seen, and it appears very soft.

62210. No. 970. Tangshan (Hot Springs). October 12, 1924. Ordinary winter wheat with very small grains.

62186 to 62229—Continued.

62211. No. 1016. Chouchiahsiang, Chihli. October 21, 1924. A winter wheat growing in a broad flat valley.

62212 and 62213. *Vicia faba* L. Fabaceæ.
Broad bean.

Peking. Beans known here as *Tsantou* (silkworm bean). These are roasted and are also cooked and used as a vegetable.

62212. No. 783. October 15, 1924. A large, broad, brownish green variety.

62213. No. 1031. October 22, 1924. A pinkish buff variety.

62214. *Vigna sesquipedalis* (L.) Frurith. Fabaceæ. Yard Long bean.

No. 802. Between Nankou and Lunglutai, October 7, 1924. The base of this bean is terra-cotta colored and is blotched or streaked with a deeper shade of red.

62215 to 62224. *Vigna sinensis* (Toner) Savi. Fabaceæ. Cowpea.

62215. No. 803. Between Nankou and Lunglutai, October 7, 1924. A cowpea with a pinkish or purple eye, growing in a very dry situation.

62216. No. 809. Tailungyuan. October 7, 1924. A pink or brown eyed cowpea.

62217. No. 855. Yung Lo tomb, Changling, Chihli. October 9, 1924. A pink cowpea.

62218. No. 932. Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. A cowpea mottled brown and white.

62219. No. 934. Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. A pink or brown eyed cowpea.

62220. No. 965. Tangshan (Hot Springs). October 12, 1924. This brown-eyed cowpea is one of the leading types grown on this sandy loam river-bottom soil.

62221. No. 968. Tangshan (Hot Springs). October 12, 1924. Cowpea mottled pink and white.

62222. No. 1017. Chouchiahsiang, Chihli. October 21, 1924. A brown-eyed cowpea.

62186 to 62229—Continued.

62223. No. 1018. Chouchiahsiang, Chihli. October 21, 1924. A pink cowpea.

62224. No. 1045. Peking. October 25, 1924. A mottled reddish brown and creamy yellow cowpea purchased in the market and reported to have come from the region south of Peking.

62225. *Zanthoxylum* sp. Rutaceæ.
Prickly ash.

No. 903. Yung Lo [Ming] tomb, Changling, Chihli. October 10, 1924. This plant is fully as broad as it is high, and the dark-green leaves have a pleasant, spicy odor. It may prove to be a good ornamental and possibly a good hedge plant.

62226 and 62227. *Zea mays* L. Poaceæ.
Corn.

62226. No. 806. Lunglutai. October 7, 1924. Small ears of flint corn purchased in the temple. The keeper reported that this corn is harvested within 100 days after planting.

62227. No. 926. Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. Yellow flint corn grown here on the mountain.

62228. *Ziziphus jujuba* Mill. (*Z. sativa* Gaertn.). Rhamnaceæ. Jujube.

No. 758. Peking. October 1, 1924. These fruits, obtained in the market, are quite acid and of good quality.

62229. *Grewia parviflora* Bunge.

No. 829. Nung Lo tomb, near Changling, Chihli. October 9, 1924. Collected from a small shrub which resembled a *Celtis*.

62230. *Rhamnus davurica* Pall. Rhamnaceæ. Dahurian buckthorn.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 6, 1924.

No. 967. October 12, 1924. A shrub having rather small, deep-green leaves and numerous small, purple or black, one-seeded fruits; found at Neutang, a short distance from Tangshan (Hot Springs). (Dorsett.)

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April 13, 1927

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This inventory is a contribution from

<i>Bureau of Plant Industry</i> -----	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Office of Foreign Plant Introduction</i> -----	DAVID FAIRCHILD, <i>Senior Agricultural Explorer, in Charge</i> .



UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 82



Washington, D. C.

Issued June, 1927

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1925 (S. P. I. NOS. 62231 TO 63489)

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INTRODUCTORY STATEMENT

MORE THAN 1,200 lots of plant material were received during the three months represented by this inventory, a total well above the average maintained for the last few years. Much of this material was sent in by the four agricultural explorers who were pursuing their activities in eastern Asia, northern Africa, and western South America.

The Province of Chihli, China, and especially the vicinity of Peking, has continued to be a very fertile field for agricultural explorations, and from this region P. H. Dorsett has sent in a steady stream of promising plant immigrants. Of special interest are scions of a number of large-fruited varieties of the Chinese jujube (*Ziziphus jujuba*, Nos. 62352-62354, 62562, 63322, 63323, 63476), because of the increasing demand for this fruit among the growers in the Southwestern States and California. The jujube has shown itself to be adapted for growing in semiarid regions having long, hot summers and mild winters. As a candied fruit, processed in sugar sirup and dried, its popularity is steadily increasing.

Other fruits represented in Mr. Dorsett's collections are peaches, apricots, plums, cherries, pears, and persimmons. There are also included many locally developed strains of cereals and vegetables and a number of herbaceous and woody ornamentals.

From Ecuador a number of interesting lots of plant material were sent in by Wilson Popenoe. These include scions of a peach (*Amygdalus persica*, No. 62551), a medium-sized freestone which may prove adapted to subtropical climates, and scions of the capulin cherry (*Prunus serotina*, No. 62553) from the old Gonzales tree at Catiglata. This tree, famous throughout the Ecuadorian highlands, bears cherries of unusually large size. The capulin cherry is very closely related to the wild black cherry of the eastern United States and may prove suitable for growing in the Southeastern States, where other cherries do not thrive.

In southeastern China F. A. McClure continued his investigations of the economic flora of that region and sent in an interesting collection of scions of the Japanese apricot (*Prunus mume*, Nos. 62311-62318). Our previous experience with the ornamental forms of *Prunus mume* has been that a few of the double-flowering and large-flowered sorts may be of special value because of their habit of blooming in the spring even before the forsythias, but as they are doubtfully hardy as far north as Washington, D. C., it may be necessary to confine their cultivation to the southern United States. Mr. McClure's collection includes some very promising large-flowered forms.

While traveling through Europe, David Fairchild, in charge of this office, visited some of the leading nurseries and arboreta in France and England. As a result of his visits there has been sent in propagating material of a large number of rare and promising trees and shrubs, mostly from the cooler parts of eastern Asia. Doctor Fairchild also visited Algeria, sending in from that country, among other things, seeds of the argan (*Argania spinosa*, No. 62660), a large drought-resistant evergreen tree of western Morocco which grows in very rocky soil and bears an abundance of light-yellow plumlike fruits eaten by stock. The seeds yield an oil which can be used for cooking.

A firlike tree from western China (*Keteleeria davidiana*, No. 62254) should be of interest. It is a tree of pyramidal habit which sometimes becomes 100 feet tall, and it has glossy green foliage. Two excellent evergreens previously introduced from this region which have found a place in American horticulture are the Chinese juniper (*Juniperus chinensis*) and the white-barked pine (*Pinus bungeana*). Mention should also be made, in this connection, of the East African juniper (*Juniperus procera*, No. 62395), which Doctor Sargent, director of the Arnold Arboretum, Jamaica Plain, Mass., considers the handsomest juniper in the world. It may be sufficiently hardy to grow in Florida and southern California.

Gladiolus breeders will be especially interested in the introduction of a number of indigenous species from South Africa (*Gladiolus* spp., Nos. 62653, 62857-62860). The rapidly increasing interest in this group of ornamentals should stimulate attempts to create new varieties by crossbreeding.

A remarkable collection of rice varieties (*Oryza sativa*, Nos. 62523-62550) was presented by H. Ando, Director of the Imperial Agricultural Experiment Station at Nishigahara, Tokyo, Japan. These varieties, purebred through selection, had been grown at the station for several years and include both early and late maturing forms. Another rice collection consisting of nearly 200 varieties (*Oryza sativa*, Nos. 62962-63148), mostly crossbred, was presented by Yoshinori Takesaki, of the Imperial University at Kyoto, Japan.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,

Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,

Washington, D. C., November 22, 1926.

INVENTORY

62231. LYCOPERSICON ESCULENTUM Mill. Solanaceae. Tomato.

From Lima, Peru. Seeds presented by Dr. A. Weberbauer. Received January 31, 1925.

Seeds of wild-grown tomatoes, collected during December between Lima and Ancon on the coastal plain on stony saline soil, in an almost rainless district. (Weberbauer.)

62232. ECDEIOCOLEA MONOSTACHYA F. Muell. Baloskionaceae.

From Perth, Western Australia. Seeds presented by W. M. Carne, botanist and plant pathologist, Department of Agriculture. Received January 31, 1925.

Collected at Wongan Hills, Western Australia, December, 1924, by C. A. Gardner. (Carne.)

A perennial, rushlike, herbaceous plant, introduced for testing as a possible source for paper-making material.

62233. ELAEOCARPUS OBLONGUS Gaertn. Elaeocarpaceae.

From Guntur, Madras Presidency, India. Seeds presented by William Bembower. Received February 3, 1925.

The "Nilghiri mock olive" is a tree of homelike habit, with a white, well-branched trunk. The elliptic leaves are shining green, and the white flowers appear in slender, axillary racemes 2 to 6 inches long. The crimson color of the autumn foliage is very attractive, resembling that of the Virginia creeper. The tree appears to be a satisfactory ornamental for subtropical regions. (Bembower.)

62234. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by the agricultural experiment station, through E. W. Brandes, Bureau of Plant Industry. Received March 25, 1925.

Hawaii 109.

62235. OLEARIA FORSTERI Hook. f. Asteraceae.

From Dublin, Ireland. Plants and cuttings presented by J. W. Besant, Glasnevin Botanic Garden, at the request of Dr. Augustine Henry, College of Science. Received February 7, 1925.

A handsome, evergreen, New Zealand shrub, about 7 feet in height, which belongs to a group closely allied to the shrubby asters. The oblong leaves have wavy margins and are whitish below, and the insignificant but fragrant flowers appear late in the fall. While this plant is said to be able to endure rather low temperatures, it also requires a cool, moist summer.

62236 to 62238. VIOLA ODORATA L. Violaceae. Violet.

From Killaloe, County Clare, Ireland. Plants purchased from Mrs. Stanistreet. Received February 7, 1925. Notes by Mrs. Stanistreet.

62236. *Lady Hume Campbell*. A variety with very large, long-stemmed flowers, which are a soft lavender-blue and very fragrant. Blooms freely and is valuable for its long flowering season.

62237. *Mrs. David Lloyd George*. The highly perfumed flowers, borne on long stems, are purple, with center petals shaded lavender, rose, and white.

62238. *Souvenir de ma Fille*. A new variety with enormous dark-violet, highly perfumed flowers, borne on long stems. Good for frames or open air.

62239. CISSUS STRIATA Ruiz and Pav. (*Vitis striata* Miq.). Vitaceae.

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 19, 1925.

A low, shrubby, evergreen vine, native to southern South America. The leaves are small, with three to five leaflets; the yellowish flowers are in rather dense clusters. Probably tender except in the Southern States.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction, and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all, and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no samples of herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

62240. ZIZIPHUS JUJUBA Mill. (*Z. sativa* Gaertn.). Rhamnaceae. Jujube.

From Chihli, China. Suckers collected by P. H. Dorsett, agricultural explorer. Bureau of Plant Industry. Received January 14, 1925.

No. 1545. *Lou Tzu Chuang* and *Ta Shan Tzu*. Received December 1, 1924. Known as the "tooth jujube." (*Dorsett*.)

62241 to 62243.

From St. Quentin, Somme, France. Seeds presented by René Bourgeois. Received February 3, 1925. Notes by Mr. Bourgeois.

62241. BENINCASA HISPIDA (Thunb.) Cogn. Cucurbitaceae. Wax gourd.

A variety having a very long fruiting season, cultivated by the natives of Tonking for making sweetmeats.

62242. BRASSICA NAPIFORMIS (Paill. and Bois.) Bailey. Brassicaceae.

A tuberous mustard from China, the seeds of which are sown during July. The tubers are eaten during the winter season in the same manner as turnips.

62243. PHASEOLUS sp. Fabaceae.

A variety with edible seeds, cultivated in Tonking and remarkable for its vigorous growth.

62244. CISTUS ALBIDUS L. Cistaceae. Rockrose.

From London, England. Seeds presented by O. E. Warburg. Received February 4, 1925.

The typical form of this low European shrub bears lilac or rosy flowers; this horticultural variety is said to produce flowers which are white.

62245 to 62247. PASPALUM spp. Poaceae. Grass.

From Guayaquil, Ecuador. Presented by J. A. Cleveland. Received February 5, 1925.

62245. PASPALUM CONJUGATUM Berg.

Seeds of a creeping perennial grass with the flowering stems sometimes 3 feet tall. This species, originally from Dutch Guiana, is found in moist places in the Tropics of both hemispheres and forms extensive and close mats.

For previous introduction, see S. P. I. No. 55693.

62246. PASPALUM sp.

No. 1. Plants.

62247. PASPALUM sp.

No. 2. Plants.

62248. CUCUMIS MELO L. Cucurbitaceae. Melon.

From Gien, Loiret, France. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received February 6, 1925.

I found strings of these melons on sale in Paris, and on sampling them I discovered that they were perfectly delicious in flavor. They seemed to be uniformly sweet and

were so juicy that they simply melted in our mouths. The melon is a rather small and typically melon-shaped one with grooves or furrows. Each fruit is tied up in a kind of basket made of straws, hung up and allowed to ripen. (*Fairchild*.)

62249. PYRUS sp. Malaceae. Pear.

From Peking, China. Seeds collected by P. H. Dorsett, agricultural explorer. Bureau of Plant Industry. Received February 6, 1925.

Nos. 1666 and 1695. December 20, 1924. Seeds of a domesticated peach secured in the market; may prove of value as stocks. (*Dorsett*.)

62250 to 62252.

From Avondale, Auckland, New Zealand. Seeds presented by H. R. Wright. Received January 21, 1925.

62250. ALECTRYON EXCELSUM Gaertn. Sapindaceae. Titoki.

A handsome evergreen tree, 30 to 60 feet high, native to New Zealand. The bark is almost black, and the young branches, under surfaces of the compound leaves, and inflorescences are covered with a very fine, silky pubescence, according to Cheeseman (*Manual of the New Zealand Flora*). The shining-black, oily seeds are half imbedded in a scarlet, fleshy, cup-shaped aril. The tough, elastic wood is used for tool handles.

62251. CUCURBITA MAXIMA Duchesne. Cucurbitaceae. Squash.

A small, gray variety, which keeps the year round; of good quality. (*Wright*.)

62252. ZEa MAYs L. Poaceae. Corn.

A variety especially recommended for green feed; stools well and is high in saccharine. Grown here as stock feed. (*Wright*.)

62253 and 62254.

From Ichang, China. Seeds purchased from Albert S. Cooper, American Church Mission. Received January 26, 1925.

62253. DIOSPIROS KAKI L. f. Diospyraceae. Kaki.

Seeds of wild kakis, from the vicinity of Ichang. (*Cooper*.)

62254. KETELEERIA DAVIDIANA (Bertrand) Beissner. Pinaceae.

A coniferous tree from western China which is closely allied to the firs. It sometimes becomes 100 feet tall, is of pyramidal habit, and has handsome, glossy green, firlike foliage. The tree is said to be somewhat tender to frost, and therefore probably adapted for growing only in the southern half of the United States.

62255 and 62256. COTONEASTER spp. Malaceae.

From Orleans, France. Seeds presented by Leon Chenault, through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received January 27, 1925.

62255. COTONEASTER DAMMERI C. Schneid.

A prostrate, evergreen shrub, native to central China, with pure-white, solitary flowers and coral-red fruits one-fourth of an inch wide.

62255 and 62256—Continued.

62256. *COTONEASTER SALICIFOLIA FLOCCOSA*
Rehd. and Wils.

A graceful shrub about 12 feet high, which bears dense corymbs of white flowers and roundish, light-red fruits. Native to western China at altitudes of 7,500 to 9,800 feet.

62257 to 62262.

From China. Scions presented through P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received February 4, 1925. Notes by Mr. Dorsett.

A collection of scions presented by the priest, Chueh Ming, from the Fa Hua Ssu temple, Silver Mountain, Changpinghsien, Chihli.

62257. *CASTANEA* sp. *Fagaceae*.

Chestnut.

No. 1677. December 23, 1924. *Hu-chao-li Tzu* (tiger-paw chestnut). Seeds of this same chestnut were sent in under No. 790 [S. P. I. No. 61834].

62258. *CASTANEA* sp. *Fagaceae*.

Chestnut.

No. 1678. December 23, 1924. *Li Tzu*. From a tree of the ordinary chestnut. Seeds were sent in under No. 791 [S. P. I. No. 61835].

62259 to 62262. *PYRUS* spp. *Malaceae*.

Pear.

62259. *PYRUS* sp.

No. 1679. December 23, 1924. *Pai Li* (white pear), also known as "cold pear." Scions were sent in under No. 778 [S. P. I. No. 61848].

62260. *PYRUS* sp.

No. 1680. December 23, 1924. *Chin Pa Li* (golden handle pear). Scions were sent in under No. 780 [S. P. I. No. 61850].

62261. *PYRUS* sp.

No. 1681. December 23, 1924. *T'ang Li* (sugar pear). Scions sent in under No. 777 [S. P. I. No. 61847].

62262. *PYRUS* sp.

No. 1682. December 23, 1924. *Ya Li* (duck pear). This is a popular pear in the Peking market.

62263 to 62265. *OLEA EUROPAEA* L.
Oleaceae. Olive.

From Seville, Spain. Scions purchased through William C. Burdett, American consul. Received February 4, 1925.

According to W. V. Cruess, College of Agriculture, Berkeley, Calif., the following varieties are of possible value for ripe pickling in California and will be tested there for that purpose.

62263. *Cordovi*.

62265. *Rapasayo*.

62264. *Madrileano*.

62266 to 62270.

From Peking, Chihli, China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 24, 1925. Notes by Mr. Dorsett.

62266. *CATALPA OVATA* Don. *Bignoniaceae*.
Japanese catalpa.

62266 to 62270—Continued.

No. 1584. December 12, 1924. Seeds of a variety called by the forestry station *Ch'iu Shu* (autumn tree) and said to bear pink flowers.

62267. *JUNIPERUS* sp. *Pinaceae*.

Juniper.

No. 1583. Forestry station at the Temple of Heaven. December 12, 1924. Seeds.

62268. *PYRUS* sp. *Malaceae*.

Pear.

No. 1577. December 4, 1924. Said to have come from the pear-growing region northwest of Peking, in the vicinity of Hsuhochuang. Seeds of a domesticated pear.

62269. *ULMUS PUMILA* L. *Ulmaceae*.

Chinese elm.

No. 1582. December 12, 1924. Seeds of a variety of the Chinese elm from the forestry station at the Temple of Heaven, Yiishu.

62270. *ZIZANIA LATIFOLIA* (Griseb.) Stapf.
Poaceae. Wild rice.

No. 1579. December 11, 1924. *Chiao-pai Goba*. These roots were secured from Tungchen, near Nanhshimen. The Chinese make this variety grow by removing all but the strongest shoots in June. The crop is harvested in October.

62271. *PINUS MERKUSII* Jungh. and
De Vr. *Pinaceae*. Pine.

From Medan, Sumatra. Seeds presented by Sydney B. Redecker, American vice consul. Received February 5, 1925.

This tree, which is the only pine found south of the Equator, attains a height of 100 feet and forms a flat, umbrellalike crown. It is found in Burma, Borneo, Sumatra, and the Philippine Islands, chiefly at altitudes of 3,000 to 4,000 feet. The wood is very resinous, and the trunks are used for masts and spars.

62272. *ORNITHOPUS SATIVUS* Brot. *Fabaceae*.
Serradella.

From Hamburg, Germany. Seeds purchased from Ernst & Von Spreckelsen. Received February 10, 1925.

German-grown seeds.

62273. *ASTREBLA LAPPACEA* (Lindl.)
Domin. *Poaceae*. Mitchell grass.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens, through C. V. Piper, Bureau of Plant Industry. Received February 9, 1925.

The accompanying memorandum is from notes forwarded by F. Turner, of New South Wales, who supplied the seed to Doctor Hill.

"*Mitchell grass*." This grass, which is of perennial duration, generally grows in tussocks from 2 to 3 feet high and occurs in the interior of New South Wales, Queensland, and Western Australia, and in many parts fairly plentifully. Its thick, wiry roots penetrating the earth to a great depth enable the grass to withstand an ordinary drought with impunity. When growing on fertile plain country it will, in ordinary seasons, yield a great amount of rich, succulent herbage on which stock thrive and fatten. Stock will travel farther and keep in better condition when fed solely on Mitchell grass than on any other

grasses that grow in the interior of Australia. When allowed to remain undisturbed for a time this grass produces an abundance of seeds, which usually ripen in summer and autumn. Although its natural habitat is in the arid interior, I have successfully cultivated it in the warmer districts on the eastern side of the Dividing Range. When cut just as the flower spikes appear it makes capital hay.

As you purpose distributing them in the hotter and drier tropical colonies of the British Empire, I should perhaps mention that under natural conditions seeds of the Mitchell grass germinate readily during summer and early autumn after thunderstorms or heavy rains. If sown under similar natural conditions in other parts of the world, the seeds should germinate readily. Failing that, artificial watering at the time of sowing will facilitate germination. Once the grass is established it luxuriates in deep, rich land during very dry and hot weather.

62274. PEROVSKIA ATRIPLICIFOLIA Benth.
Menthaceae.

From Chester, England. Plants purchased from the Dickson Nurseries. Received February 12, 1925.

A handsome, shrubby plant, allied to the sages (*Salvia* spp.) which is indigenous to the mountainous regions of Afghanistan. It is of erect habit, about 5 feet high, and emits an aromatic sagelike odor when bruised. Its chief ornamental value lies in the terminal panicles of blue flowers which appear in early autumn, forming a pleasing contrast with the silvery gray stems.

62275 and 62276. PISUM SATIVUM L.
Fabaceae. Pea.

From Trier, Germany. Seeds purchased from J. Lambert & Son. Received February 10, 1925.

Tall, medium late, round-seeded varieties. Pods very long, slender, slightly curved. Both, prolific varieties, classed as field peas by American users, but are used in Germany as green shelling peas. (D. N. Shoemaker, Bureau of Plant Industry.)

62275. Grosse Victoria. Larger than the following [S. P. I. No. 62276], otherwise very similar.

62276. Grünefolger.

62277. CITRUS sp. Rutaceae.

From Johannesburg, Transvaal. Fruits presented by Col. A. J. Bester. Received February 7, 1925.

When I visited the great Symbabian ruins in central Africa in 1911 I discovered a new citrus fruit; I collected seeds and brought them back, and now the variety is distributed all over the Transvaal. The smooth-skinned fruits are much like a big lime in shape, and the abundant, fine-flavored juice is very sweet. (Bester.)

For previous introduction, see S. P. I. No. 55624.

62278. AVENA SATIVA L. Poaceae.

Oats.

From Edinburgh, Scotland. Seeds presented by Thomas Young, Edinburgh and East of Scotland College of Agriculture. Received February 12, 1925.

This is a black oat which has done very well in Scotland as a winter oat. (Young.)

62279 and 62280.

From Verrieres le Buisson, Seine et Oise, France. Plants presented by A. Meunissier. Received February 17, 1925.

62279. CRYPTOMERIA JAPONICA (L. f.) D. Don. Pinaceae.

Var. *Vilmoriniana*. A horticultural variety of the well-known Japanese conifer which is described (The Garden, vol. 88, p. 310) as a dwarf form of compact, bushy habit. It was discovered in 1923 in the Vilmorin nursery at Verrieres le Buisson, near Paris, France, where it makes a striking appearance in the rock garden.

62280. SCHIZOPHRAGMA INTEGRIFOLIA Oliver. Hydrangeaceae.

A climbing shrub, closely related to the hydrangeas, which is native to rocky places in central China. It reaches about 15 feet in height, and has broadly oval, bright-green leaves about 5 inches long. The inflorescence consists of loose terminal clusters of small, white flowers, with large and showy sterile flowers at the margins of these clusters. This shrub is hardy as far north as southern Massachusetts.

62281. HIBISCUS SABDARIFFA L. Malvaceae. Roselle.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received February 16, 1925.

Rizal. A new variety that has originated on the hacienda of R. M. McCrory, Novales, Riza Province, and which I have named after the province in which it originated. This new variety is apparently a spontaneous hybrid between either the Rico or Victor and the Archer. The calyces are white at the base, the claws of the epicalyx green, and the remainder of the calyx is tinged with pink to light red, giving the "fruit" a waxy pink appearance somewhat like the fruit of the makpoo, *Eugenia javanica*. Jelly made from the fruit probably would be pink in color. Because of the pretty coloring of the fruit, the plants of the Rizal make a more attractive ornamental than the ordinary kinds, and it ought to become popular, especially with hunters of novelties. (Wester.)

62282. CITRUS sp. Rutaceae.

From Fukuoka, Japan. Seeds presented by Dr. Tuzaburo Tanaka, in charge, Horticultural Institute, Department of Agriculture, Kyushu Imperial University. Received February 18, 1925.

Sweeqasaa. A species of Citrus native to Nuchu Island. It is closely related to our *Koji* variety, but differs in its greater amount of pectin and in the puffiness and deep color of the rind. It is possibly a good citrus stock. Provisionally I have named it *Citrus pectinifera*, but I shall make further observations of the flowers before describing the species. (Tanaka.)

62283 to 62285.

From Orleans, France. Plants presented by Leon Chenault, through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received February 21, 1925.

62283. BUDDLEIA ALTERNIFOLIA Maxim.
Loganiaceae. Butterfly bush.

62283 to 62285—Continued.

According to Maximowicz (Bulletin de l'Académie Impériale, St. Petersburg, vol. 26, p. 494) this ornamental shrub is native to the valley of the Hwang River in Kansu, China. The narrow, very short leaves are alternate, and the violet flowers are in dense, nearly sessile clusters.

62284. *FORSYTHIA OVATA* Nakai. Oleaceae.

A new and distinct species native to Korea. It is a vigorous shrub, with cylindrical boughs and oval, green leaves. The numerous flowers, which are brilliant canary yellow, appear [in Orleans] during the first fine days of February. (Chenault.)

62285. *MAGNOLIA WILSONII* (Finet and Gagn.) Rehder. Magnoliaceae.
Wilson magnolia.

In habit this Chinese magnolia is a large shrub; it was first discovered in western Szechwan by E. H. Wilson, and appears to be a valuable horticultural addition to this already popular genus. The flowers, which are pure white, are deliciously fragrant and are produced freely during late May and early June.

62286 and 62287.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received February 17, 1925.

62286. *PERNETTYA MUCRONATA* (L. f.) Gaud. Ericaceae.

According to W. J. Bean (Trees and Shrubs Hardy in the British Isles, vol. 2, p. 127) this is one of the finest ornamental shrubs, native to South America about the Straits of Magellan. It is one of the hardiest from that continent, and is rarely injured by frost in the neighborhood of London. The shrub is an evergreen, 2 to 5 feet high, and spreads freely by suckers, forming ultimately a dense, low thicket. The white, nodding flowers, one-fourth of an inch long, are produced singly in the axils of the leaves at the ends of the shoots. The round berries, up to half an inch in diameter, vary in color from white to pink, lilac, crimson, purple, or almost black and remain on the branches through the winter and following spring. At Kew the berries are untouched by birds.

62287. *STYRAX WILSONII* Rehder. *Styracaceae*.
Chinese snowbell.

A very attractive, compact little shrub 6 feet or less in height, which starts to bear its small clusters of white flowers when about 2 years old. The oval leaves are white tomentose beneath. The shrub is native to the mountains of western China, and is hardy as far north as the Arnold Arboretum, Jamaica Plain, Mass.

62288 and 62289.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, regius keeper, Royal Botanic Garden. Received February 17, 1925.

62288. *OPHIPOGON JABURAN* (Siebold) Lodd. Liliaceae. Jaburan.

A perennial, stemless, Japanese plant, belonging to the lily family, with a stoloniferous rhizome and erect, narrowly linear leaves about 2 feet high. The flowers, varying in color from white to lilac, are in racemes 3 to 6 inches long,

62288 and 62289—Continued.

borne on a scape up to 2 feet in height. It is likely to prove tender for outside growing in the northern United States.

62289. *SCHIZOPHRAGMA INTEGRIFOLIA* Oliver. Hydrangeaceae.

For previous introduction and description see S. P. I. No. 62280.

62290. *CASSIA DIDYMOBOTRYA* Fres. Caesalpiniaceae.

From Beverly Hills, Calif. Seeds presented by A. Stephen Vavra. Received February 21, 1925.

This plant is a native of British East Africa; it blooms within nine months from seeds, and the orange-yellow flowers are in spikes over a foot in length. (Vavra.)

62291 to 62294.

From Maison Carree, Algeria. Seeds presented by L. Ducellier, Algerian Agricultural School, through H. V. Harlan, Bureau of Plant Industry. Received February 21, 1925.

62291 to 62293. *NICOTIANA TABACUM* L. Solanaceae. Tobacco.

62291. *Arbi*.

62292. *Cabot de Bone*.

62293. *Colon*.

62294. *ZEA MAYS* L. Poaceae. Corn.
Navajo × *Maïs du Languedoc*.

62295. *ALEURITES CORDATA* (Thunb.) Muell. Arg. Euphorbiaceae.
Japanese tung-oil tree.

From Yokohama, Japan. Seeds purchased from the Yokohama Nursery Co. Received February 24, 1925.

The Kiri-oil tree is a close relative of the tung-oil tree (*Aleurites fordii*) and, like the latter, is cultivated, especially in Japan, for the sake of the oil obtained from the seeds. The tree grows to a height of about 25 feet, and the broadly ovate leaves are three to five lobed. The seeds are about the size and shape of large castor beans. The oil, which differs from tung oil in several important features, is used in Japan chiefly as an illuminant. This introduction is made for the purpose of testing this Japanese species in southern Florida, where the cultivation of the tung-oil tree has become of commercial importance.

62296 and 62297. *HELIANTHUS TUBEROSUS* L. Asteraceae.
Jerusalem artichoke.

From Edinburgh, Scotland. Tubers purchased from Peter Lawson & Son. Received March 9, 1925.

62296. Purple variety.

62297. White variety.

62298. *PRUNUS BRIGANTINA* Vill. Amygdalaceae. Alpine plum.

From Paris, France. Budwood presented by Vilmorin-Andrieux & Co. Received January 16, 1925.

The Alpine plum is a shrub or small, spineless tree, native to the French Alps; the small, smooth subacid fruits are about the size of a small Green Gage plum.

62299. PRUNUS COCOMILIA Ten. Amygdalaceae. Italian plum.

From Paris, France. Scions presented by Vilmorin-Andrieux & Co. Received January 24, 1925.

The Italian plum, allied to the cherry plum (*Prunus cerasifera*), is a bush or small tree with thorny branches, oval sharply-toothed leaves, and small, globular fruits which are fairly good for eating.

62300 to 62306.

From Alnarp, Akarp, Sweden. Plants presented by Carl G. Dahl, superintendent, Förståndare för Alnarps Trädgårdsskola. Received January 7, 1925.

62300 to 62303. FRAGARIA spp. Rosaceae. Strawberry.

62300. FRAGARIA sp.

Abundance. An old French variety. (Dahl.)

62301. FRAGARIA sp.

Elsa von Hochberg.

62302. FRAGARIA sp.

Frau Direktor Echtermeyer.

62303. FRAGARIA sp.

Grüss aus Dahlem.

62304 to 62306. RUBUS spp. Rosaceae. Blackberry.

These varieties are much hardier than the American or English types of blackberries introduced into this country. Last summer these fruited when all other (foreign) varieties gave only canes, the old growth being killed in the winter. The berries are sweet and well flavored, but are not so large as the American types. (Dahl.)

62304. RUBUS sp.

Torekov.

62305. RUBUS sp.

Ostra Karup.

62306. RUBUS sp.

Sunne.

62307. ANANAS SATIVUS Schult. f. Bromeliaceae. Pineapple.

From Monrovia, Liberia, West Africa. Offshoots presented by George F. Cope, Muhlenberg Mission. Received January 8, 1925.

These grow in a semiwild condition near the mission. I have been told that, when cultivated, they become as large as the cultivated varieties. (Cope.)

62308. PYRUS CALLERYANA Decaisne. Malaceae. Pear.

From Nanking, China. Seeds purchased from Dr. John H. Reisner, College of Agriculture and Forestry, University of Nanking. Received February 5, 1925.

Introduced for testing as a stock for cultivated apple and pear varieties.

62309 and 62310. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Scheemda, Netherlands. Seeds purchased from the Hommo Ten Have's Seed Co. Received January 2, 1925.

Two local strains.

62309. Remontant. 62310. Roosendaal.

62311 to 62318. PRUNUS MUME Sieb. and Zucc. Amygdalaceae.

Japanese apricot.

From Canton, China. Scions collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 10, 1925. Notes by Mr. McClure.

62311 to 62316. Scions from trees in an orchard of Chung Hoh Ching, near Fohtsuen, Kwangtung.

62311. No. 10. December 5, 1924. Tai Mui. From a tree 3 to 4 meters high, with a wide-spreading habit, branching out from a point about half a meter above the ground. The fruits of this subvariety are said to be characterized by their large size.

62312. No. 11. December 5, 1924. Tai Mui and Teng Tai Mui (the biggest mui). From a tree 3 meters high, with a low-spreading habit. The fruits are especially large. This variety is one of the *Tsing Mui* group.

62313. No. 13. December 5, 1924. Tai Wat Tsing Mui (large-seeded green mui). From a tree 4 meters in height, and spreading from a point half a meter above the ground. In appearance this particular individual resembles a peach tree as to habit and color of bark. This tree is said to flower a little earlier than the other trees in this region.

62314. No. 14. December 5, 1924. Wang Wat Mui (transverse seeded mui). From a tree 3 to 4 meters in height and spreading in habit. This variety is said to have especially large flowers.

62315. No. 15. December 5, 1924. Hung Mui (red mui). From a tree 4 meters high. This variety is distinguished by a reddish bark, more slender branches, pink flowers, and red fruits. Its habit of growth is very much like that of the *Tsing Muis*.

62316. No. 16. December 5, 1924. Hang Mui. From a tree 4½ meters in height; distinctly more upright in habit than either *Tsing Mui* or *Hung Mui*.

62317. No. 17. December 6, 1924. Sheung Tok Mui (double-flowered mui). From the only double-flowered mui to be found in the neighborhood of Fohtsuen. This specimen was found growing under difficult conditions of shading, etc., on the ground of Chung Chi Chan. The place is called Sheunglingleilau. The tree was 5 to 6 meters in height. Its upright habit and unusual growth in height are probably due to the fact that it is shaded too much. This tree is said by the natives to belong to the *Tsing Mui* group. It is said to have been grafted, but I was not able to find out the source of the scion.

62318. No. 20. December 11, 1924. Sheung Tok Tsing Mui and Sheung Paan Mui. Secured from a tree at the Canton Christian College, originally from Wongkonghang, Kwangtung. The tree has a tendency to a more upright habit than most of the *Tsing Muis*.

62319 and 62320. SPENCERIA RAMALANA
Trimen. Rosaceae.

From Edinburgh, Scotland. Presented by Dr. William Wright Smith, regius keeper, Royal Botanic Garden. Received January 3, 1925.

A free-flowering and attractive rosaceous plant native to the dry upland pastures of western Szechwan and Yunnan, China. It is described (Curtis's Botanical Magazine, pl. 9007) as a perennial herbaceous plant about a foot high, with erect or ascending stems, which are covered with silvery hairs. The stem leaves are reduced to one or two pairs of narrowly oval leaflets, and the golden or reddish yellow flowers are in stiff, open racemes. In England tests made with this plant appear to show that it requires well-drained, calcareous soil for the best results.

62319. Seeds.

62320. Plants.

62321. COTONEASTER SEROTINA Hutchin-
son. Malaceae.

From Flax Bourton, England. Seeds presented by G. H. Wollaston. Received January 3, 1925.

A small-sized tree, originally discovered in western China by the well-known collector, George Forrest, and described (Curtis's Botanical Magazine, pl. 8854) as having elliptic, papery leaves, small, white flowers, borne in many-flowered corymbose clusters, and attractive, bright-red berries which persist throughout most of the winter. It appears to be perfectly hardy in southeastern England, and thrives best in a sunny position.

62322 and 62323. RUBUS spp. Rosa-
ceae.

From Yenfangwan, Hupeh, China. Seeds presented by Rev. A. S. Cooper, American Church Mission. Received January 5, 1925.

"Corn berries" from Hupeh; collected at an altitude of about 3,500 feet. They mature in the fall. (Cooper.)

62322. RUBUS sp.

62323. RUBUS sp.

Red variety.

Yellow variety.

62324. ECHINOCHLOA CRUSGALLI EDULIS
Hitche. Poaceae. Barnyard millet.

From Nanking, China. Seeds presented by George E. Ritchey, College of Agriculture and Forestry, University of Nanking. Received January 5, 1925.

Locally grown seeds.

62325. TRIFOLIUM REPENS L. Faba-
ceae. White clover.

From Scheemda, Netherlands. Seeds presented by the Hommo Ten Have's Seed Co. Received January 6, 1925.

A local strain, growing wild at Scheemda.

62326. DIOSCOREA MACROURA Harms.
Dioscoreaceae. Yam.

From Edinburgh, Scotland. Tubers presented by Dr. William Wright Smith, regius keeper, Royal Botanic Garden. Received January 7, 1925.

A tropical African vine with simple, heart-shaped leaves about a foot in width and inconspicuous flowers in large racemes 2 feet long. Introduced for specialists investigating nitrogen-fixing bacteria.

62327 and 62328. LESPEDEZA spp. Fa-
baceae.

From Fukuoka, Japan. Seeds presented by Mitsunaga Fujioka, Kyushu Imperial University. Received January 7, 1925.

62327. LESPEDEZA JUNCEA Pers.

Medohagi. From the crop of 1924. (Fujioka.)

A Siberian bushclover which is semi-shrubby in habit, with slender branches and bright-yellow flowers marked with violet.

62328. LESPEDEZA STRIATA (Thunb.) Hook.
and Arn.

Yahazuso. From the crop of 1924. (Fujioka.)

62329 to 62338. CICER ARIETINUM L.
Fabaceae. Chick-pea.

From Dacca, Bengal, India. Seeds presented by D. Dutta, second economic botanist. Received January 8, 1925.

Introduced for trial as stock feed in the southwestern United States.

62329. No. 1.

62334. No. 6.

62330. No. 2.

62335. No. 7.

62331. No. 3.

62336. No. 8.

62332. No. 4.

62337. No. 9.

62333. No. 5.

62338. No. 10.

62339. ACTINIDIA PURPUREA Rehder.
Dilleniaceae.

From Nancy, France. Plants purchased from Victor Lemoine & Son. Received January 13, 1925.

A woody vine, native to western China, described by Rehder (Plantae Wilsonianae, vol. 2, p. 378) as 10 to 25 feet in height, with papery, elliptic leaves about 4 inches long, axillary clusters of small, white flowers, and edible ovoid purple berries about an inch long.

62340. ATTALEA sp. Phoenicaceae.
Palm.

From Palmira, Valle, Colombia. Seeds purchased from the director, Compañia Agrícola Caucana. Received January 9, 1925.

Corozo de puerco palm. This palm thrives abundantly in the Cauca Valley, especially in the neighborhood of Roldanillo, on the left bank of the Cauca River and about 7 miles north of Cali. (Director.)

62341. (Undetermined.)

From Nanking, China. Seeds presented by Dr. J. H. Reisner, College of Agriculture and Forestry, University of Nanking. Received January 16, 1925.

Seed of *Ku Tsao* which, translated, means "bitter grass." This is a legume grown in the northern part of this Province, Kiangsu, on land that is too alkaline to grow anything else. This crop is used for fuel, and after it has been grown on the land for several years the farmers plow it up and plant it to a regular crop. (Reisner.)

62342. ATRIPLEX PAMPARUM Griseb.
Chenopodiaceae. Saltbush.

From Cordoba, Argentina. Seeds presented by E. Tanago, Director General, Cordoba Department of Agriculture. Received February 3, 1925.

A much-branched bushy plant, which, according to Grisebach (*Plantae Lorentzianae*) forms a prominent feature of the vegetation in the saline desert areas of Santiago del Estero, Argentina. The plant is said to be useful as forage.

62343. PRUNUS MUME Sieb. and Zucc.
Amygdalaceae. Japanese apricot.

From Canton, China. Scions collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 13, 1925.

No. 12. December 5, 1924. *Tai Wat Tsing Mui* (large-seeded, green mui). From a tree in one of the orchards of Chung Hoh Ching, near the village of Foh-tsuen, Kwangtung. This tree was 4 meters in height, with a wide spreading habit. (McClure.)

62344 and 62345.

From Taihoku, Japan. Seeds presented by Dr. R. Kanehira, director, Government Forest Experiment Station. Received January 16, 1925.

62344. DIOSPYROS MORRISIANA Hance.
Diospyraceae. Persimmon.

A relative of the Japanese persimmon (*Diospyros kaki*) which is described by Dr. Alfred Rehder (Arnold Arboretum, Jamaica Plain, Mass.) as an evergreen shrub or small tree, with oval leaves 3 inches long, whitish flowers, and roundish, yellow, edible fruits about three-fourths of an inch in diameter and ripening in December. Native to Taiwan and Hongkong.

62345. KOELREUTERIA FORMOSANA Hayata.
Sapindaceae.

One member of this genus (*Koelreuteria paniculata*) is widely grown as a hardy shade and ornamental tree in many parts of the United States. This species, native to Taiwan, is also a large handsome tree, with attractive, compound leaves and large terminal panicles of yellow flowers. It is likely, however, to prove tender to much frost and is therefore best suited for growing in the Southern States.

For previous introduction, see S. P. I. No. 43947.

62346 and 62347. PRUNUS MUME Sieb. and Zucc.
Amygdalaceae. Japanese apricot.

From Canton, China. Scions collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 13, 1925.

62346. No. 18. December 11, 1924. *Hung Mui*. Secured from a tree at the Canton Christian College, originally from Wongkonghang, Kwangtung. This tree was 2½ meters high, with a spreading habit. (McClure.)

62347. No. 19. December 11, 1924. *Hung Mui*. From a tree at the Canton Christian College, originally from Wongkonghang, Kwangtung. Tree 3 meters high, with upright habit, branching from a point near the ground. (McClure.)

62348. AVENA SATIVA L. Poaceae. Oats.

From Svalof, Sweden. Seeds presented by A. Akerman, Sveriges Utsädesför. Received January 23, 1925.

Engelbrekt. According to the Sveriges Utsädesför. Tidskrift (vol. 34, p. 4) this is a new, high-yielding black variety originated at Svalof and adapted to southern and central Sweden.

62349 and 62350. CITRUS spp. Rutaceae.

From Nanking, China. Seeds presented by J. Lossing Buck, College of Agriculture and Forestry, University of Nanking. Received January 14, 1925.

62349. CITRUS ICHANGENSIS Swingle.
Ichang lemon.

A spiny shrub or small tree, 5 to 15 feet high, native to central and southwestern China. It differs from other members of the genus chiefly in its very large, thick seeds and its slender leaves, which are four to six times longer than broad. It is also one of the hardiest species of citrus known.

For previous introduction, see S. P. I. No. 58480.

62350. CITRUS sp. Orange.
A wild orange. (Buck.)

62351 to 62354.

From China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 14, 1925. Notes by Mr. Dorsett.

62351. VITIS VINIFERA L. Vitaceae.
European grape.

No. 1546. Loutzchuang. December 1, 1924. Cuttings of what the Chinese call *Hung Pu Tao* (red grape).

62352 to 62354. ZIZIPHUS JUJUBA Mill.
(*Z. sativa* Gaertn.). Rhamnaceae.

62352. No. 447. Chenchiafen, Chihli. December 1, 1924. Scions of the "Apple jujube" from Mr. Lee's place.

62353. No. 1543. Loutzchuang, Chihli. December 1, 1924. Scions of the "Tooth jujube" from Mr. Fan's place. The mahogany-brown fruits are large at the base, and from about the center they taper rather abruptly to the apex. The flesh is firm, crisp, and quite sweet.

For previous introduction, see S. P. I. No. 62240.

62354. No. 1544. Loutzchuang, Chihli. December 1, 1924. Scions of the "Tooth jujube" from Mr. Fan's place.

For previous introduction, see S. P. I. No. 62353.

62355. TRIFOLIUM JOHNSTONI Oliver.
Fabaceae. Clover.

From Nairobi, Kenya Colony, Africa. Seeds presented by the Director, Kenya Colony Department of Agriculture. Received February 16, 1925.

This clover grows on the slopes of Mount Kenya at an altitude of 4,500 feet, where there is no frost and where the annual rainfall is about 40 inches. (The Director.)

A smooth perennial clover with the habit of white clover (*Trifolium repens*), found

at high altitudes in eastern Africa. The leaves are long stemmed, with membranous leaflets and globose flower heads about an inch in diameter.

62356 and 62357. GOSSYPIUM spp.
Malvaceae. Cotton.

From Fuerte Olimpo, Paraguay. Seeds presented by C. Francisco Mead. Received January 8, 1925.

These were sent in response to a request for a shrubby cotton said to grow spontaneously west of the Paraguay River, Paraguay, where the fiber was spun and woven by wild tribes in prehistoric times.

62356. GOSSYPIUM sp.

Red form.

62357. GOSSYPIUM sp.

White form.

62358 to 62375.

From Caracas, Venezuela. Seeds presented by H. Pittier, director, Museo Comercial. Received January 8, 1925.

62358 and 62359. HORDEUM VULGARE PAL-LIDUM Seringe. Poaceae.

Six-rowed barley.

From Tachira.

62358. No. 1. 62359. No. 2.

62360 and 62361. NICOTIANA TABACUM L. Solanaceae. Tobacco.

From Barinas.

62360. Special. Used only in the manufacture of chimo or tobacco juice. (Pittier.)

62361. Varinas. Cultivated to-day on a small scale, but once celebrated in Europe under the name of *Kanister*. (Pittier.)

62362 to 62368. TRITICUM AESTIVUM L. (T. *vulgare* Vill.). Poaceae. Common wheat.

From Tachira.

62362. No. 3. Grande del Morte.

62363. No. 5. La clase.

62364. No. 6. Lebarata.

62365. No. 4.

62366. No. 5.

62367. No. 4. Pequeño.

62368. No. 1.

62369 to 62375. ZEA MAYS L. Poaceae. Corn.

From Tachira.

62369. No. 4. Bayuelo amarillo.

62370. No. 5. Bojo.

62371. No. 2. Chiquito amarillo.

62372. No. 6. Matizado.

62373. No. 7. Mazorcas.

62374. No. 1. Mortiño.

62375. No. 3. Piedrita blanco.

62376. PERSEA AMERICANA Mill. (P. *gratissima* Gaertn. f.). Lauraceae. Avocado.

Fruits from a seedling of S. P. I. No. 19080, Collins, located 15 feet south-east of Gottfried tree, S. P. I. No. 46337,

62376—Continued.

at the Plant Introduction Garden, Miami, Fla. Received at Washington, D. C., January 8, 1925.

The original seeds from the old Collins tree were planted in the spring of 1916.

Form roundish oblate, oblique; stem short, thick, cavity small, very shallow, wrinkled; apex obliquely flattened, stigmatic point slightly raised; surface roughened by deeply set dots, dark brownish purple; dots rather numerous, large, light brown, mostly elongated, deeply set in the skin; skin quite thin, granular on inside, but separating readily from flesh; flesh deep yellow, green near skin, smooth but-tery, no fiber, pleasant, rich flavor.

A good medium-sized fruit with a thin skin that peels readily from the flesh, which is of good texture and flavor, though not quite so rich as that of some other varieties.

The tree is tall and spreading.

62377. HORDEUM DISTICHON PALMELLA Harlan. Poaceae. Two-rowed barley.

From Caracas, Venezuela. Seeds presented by H. Pittier. Received January 8, 1925.

No. 3. From Tachira.

62378. LOTUS ULIGINOSUS Schkuhr. Fabaceae.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received January 12, 1925.

A pasture plant of considerable importance in New Zealand, where it grows in wet, swampy ground. It is introduced for testing in similar situations in this country.

62379. ABIES MARIESII KAWAKAMII Hayata. Pinaceae.

From Taihoku, Japan. Seeds presented by Dr. R. Kanehira, director, Government Forest Experiment Station. Received January 12, 1925.

This is one of the rarest of the silver firs, according to Bean (Trees and Shrubs Hardy in the British Isles); it is a tree usually about 40, but sometimes 80, feet in height. The leaves are dark shining green, and the egg-shaped cones, 4 inches or more in length, are purple when young.

62380 to 62384.

From Meguro, Tokyo, Japan. Seeds presented by Motoo Ohsako, Central Forest Experiment Station, at the request of Mitsunaga Fujioka, Kyushu Imperial University, Fukuoka. Received January 12, 1925.

62380. CASSIA MIMOSOIDES DIMIDIATA (Buch.-Ham.) Baker. Caesalpiniaceae.

A shrubby leguminous plant from the Himalayas, described (Hooker, Flora of British India, vol. 2) as a low, much-branched plant with very narrow, stiff leaflets and yellow flowers borne singly or in twos in the leaf axils.

62381. INDIGOFEA PSEUDOTINCTORIA Mats. Fabaceae. Indigo.

A shrubby, red-flowered plant, native to Japan.

62380 to 62384—Continued.

62382. *LESPEDEZA BICOLOR* Turcz. Fabaceae.

A bushy, herbaceous Japanese perennial which flowers in early autumn, bearing a profusion of rosy purple flowers which practically cover its drooping branches. These branches sometimes become 6 feet in length.

62383. *LESPEDEZA STRIATA* (Thunb.) Hook. and Arn. Fabaceae.

A local strain.

62384. *VICIA UNIJUGA* A. Br. Fabaceae. Vetch.

A perennial vetch, native to Siberia, with an upright or ascending stem 8 to 16 inches long and rather large, purplish flowers. It is sometimes cultivated in European gardens as an ornamental.

62385. *STRANVAESIA DAVIDIANA* Decaisne. Malaceae.

From Kells, County Meath, Ireland. Seeds presented by Lord Headfort. Received January 13, 1925.

The handsome evergreen foliage, loose clusters of white flowers, and scarlet berries of this hardy Chinese shrub make it an attractive ornamental.

62386 to 62388.

From Maidstone, England. Plants presented by George Bunyard & Co. Received January 22, 1925. Notes taken from Bunyard's Catalogue of Fruit Trees, 1924-25.

62386. *PYRUS* sp. Malaceae. Pear.

Laxton's Superb, raised by Laxton Bros., from *Beurre Superfin* × *Williams*. A large pear with very tender and deliciously flavored flesh, ripens early, and is a good cropper.

62387 and 62388. *RUBUS* spp. Rosaceae. Raspberry.

62387. *RUBUS* sp.

Lloyd George. This variety is quite perpetual in habit and keeps a supply of fruit from the earliest season till late autumn. It is vigorous and productive and is in all respects a sterling novelty.

62388. *RUBUS* sp.

Royal. The enormous fruits, conical in shape, are solid and of good flavor, and are borne on short trusses. The canes are very stout and vigorous.

62389 to 62392.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Garden. Received January 15, 1925.

62389. *CRATAEGUS WATTIANA* Hemsl. and Lace. Malaceae. Hawthorn.

According to Curtis's Botanical Magazine (pl. 8818) this attractive hawthorn was originally discovered by J. H. Lace, in the Urak Gorge, Baluchistan, at an altitude of about 7,000 feet. It is a rather small tree, unarmed, laxly spreading, with brownish purple young twigs. The white flowers are in many-flowered terminal clusters, and the globular fruits, half an inch in diameter, are translucent yellow and become ripe in August.

62389 to 62392—Continued.

62390. *DELTZIA COMPACTA* Craib. Hydrangeaceae.

It is not known from just which part of China this handsome shrub originated, according to Curtis's Botanical Magazine (pl. 8795). It is described in that place as a bushy shrub about 6 feet high, with dull-green leaves and terminal clusters of flowers which are white fringed with pink when young.

62391. *LONICERA CHAETOCARPA* Rehder. Caprifoliaceae. Honeysuckle.

Lonicera chaetocarpa was collected in Kansu, western China, by E. H. Wilson. It is described (Curtis's Botanical Magazine, pl. 8804) as a shrub of compact habit and about 5 feet in height. The oblong leaves are bright green and more or less hairy, and the flowers, an inch or more in length, open early in June and are a pleasing primrose yellow.

62392. *STRANVAESIA SALICIFOLIA* Hutchins. Malaceae.

A rosaceous, evergreen shrub, closely related to *Stranvaesia undulata*, from which, according to Curtis's Botanical Magazine (pl. 8862), it differs in its narrower, willowlike leaves and its fruits, which are red, and not orange like those of *S. undulata*. The small, white flowers are in terminal clusters. It comes from western China and is perfectly hardy in southeastern England.

62393. *CASTANEA MOLLISSIMA* Blume. Fagaceae. Hairy chestnut.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 24, 1925.

No. 23. December 5, 1924. *Fung Lut*. Seeds secured from Chung Hung, a villager from Lungtin, Kwangtung. He gave the following information: Chestnuts are grown to a considerable extent in this region, the soil being sandy. The trees are grown only from seeds, and just one variety is cultivated. They begin to bear at 7 or 8 years of age and live to become 30 to 40 years old. The harvest is during September and October. The average crop is about 50 or 60 pounds husked fruits per tree, but crops of 150 to 250 pounds are not uncommon. Seeds for planting are stored in the husks in a cool dry place and planted during December or January in sand or sandy soil. (McClure.)

62394. *POPULUS* sp. Salicaceae. Poplar.

From Peking, Chihli, China. Cuttings collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 24, 1925.

No. 1581. December 12, 1924. *Hsiao Yih Yang* (small-leaved poplar). Secured from young trees at the forestry station at the Temple of Heaven. (Dorsett.)

62395 and 62396.

From Tripoli, Libia, Africa. Seeds presented by Miss Ernestina Fenzi. Received January 21, 1925.

62395. *JUNIPERUS PROCERA* Hochst. Pinaceae. East African juniper.

This is probably the largest and hand-somest juniper in the world. It is native to the high mountains of eastern tropical Africa, and should prove an

62395 and 62396—Continued.

extremely valuable tree in the mountains of the West Indies; it may grow in the southern United States. (*C. S. Sargent, Arnold Arboretum, Jamaica Plain, Mass., in note under S. P. I. No. 55484.*)

62396. *PHOENIX DACTYLIFERA* L. Phoenixaceae. Date palm.

From Nalut.

62397 to 62509.

From China. Seeds and corms collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 5, 1925. Notes by Mr. Dorsett.

62397. *ARISAEMA* sp. Araceae.

No. 1283. Eastern slope of One Hundred Flower Mountain, while en route from Shihchaying to Huangan. November 8, 1924. Our cook found this spike of small, bright-red, closely clustered fruits resembling an Indian turnip.

62398 and 62399. *AVENA NUDA* Hoejer. Poaceae. Naked oats.

62398. No. 1299. Huangan. November 8, 1924. A variety known here as "oil wheat" and said to be commonly grown 100 miles north of Peking, in Kalgan.

62399. No. 1477. November 25, 1924. "Oil wheat" secured from the Yu Mao Hao shop in Peking. It is said that this variety should be planted in the spring.

62400. *BENINCASA HISPIDA* (Thunb.) Cogn. Cucurbitaceae. Wax gourd.

No. 1444. Peking. November 20, 1924. A dark-green Chinese gourd about 10 inches in diameter and 24 inches or more long, having snow-white flesh. After peeling and cutting into pieces it is boiled with meat.

62401 to 62403. *CANNABIS SATIVA* L. Moraceae. Hemp.

62401. No. 1302. Huangan. November 8, 1924.

62402. No. 1360. Hsiamaling. November 10, 1924.

62403. No. 1498. Peking. November 26, 1924. This variety, which is used chiefly for bird seed, was secured in the market.

62404. *CAPSICUM ANNUM* L. Solanaceae. Red pepper.

No. 1051. October 27, 1924. *Yang Chiao Chin Chiao* (goat-horn pepper). These long, slender, bright-red peppers were grown in the vicinity of Peking.

62405. *CHAENOMELES* sp. Malaceae. Chinese quince.

No. 1438. Peking. November 19, 1924. A small to medium-sized, bright-yellow quince with a delightful fragrance; secured in the market.

62406 and 62407. *CHAETOCHLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.

62406. No. 1464. Peking. November 25, 1924. A small white-grained millet secured from Yung Ho Hseu.

62407. No. 1465. Peking. November 25, 1924. Red-seeded millet secured from Yung Ho Hseu.

62397 to 62509—Continued.

62408. *CHRYSANTHEMUM MORIFOLIUM* (Ramat.) Hemsl. Asteraceae.

No. 694. October 10, 1924. A pink-flowered chrysanthemum growing wild in the Western Hills between the Ming tombs and the Fa Hua Ssu temple.

62409. *COLOCASIA* sp. Araceae.

No. 1452. Peking. November 24, 1924. These corms, secured in the market and reported to be grown locally about Peking, are small compared with the ones produced in the United States.

62410 to 62413. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae. Cushaw.

62410. No. 1092. Peking. October 31, 1924. A rather long-necked, winter squash, secured in the market; striped with terra cotta and green, and having a golden yellow flesh.

62411. No. 1093. Peking. October 31, 1924. A small, rather thin though attractive terra-cotta colored pumpkin purchased in the market.

62412. No. 1230. Neptune temple, Hlungkuau. November 6, 1924. A good-sized, flat, yellow pumpkin with golden yellow flesh of fair thickness, growing on a terraced mountain side.

62413. No. 1309. Huangan. November 8, 1924. A black-seeded winter squash.

62414. *CUCURBITA PEPO* L. Cucurbitaceae. Gourd.

No. 1450. Peking. November 21, 1924. This gourd is a peculiar shape and color, the color being scarlet with stripes of creamy white and blotched with grayish olive green. The flesh is yellow, and the seeds are medium large and white.

62415. *DAUCUS CAROTA* L. Apiaceae. Carrot.

No. 1069. Peking. October 30, 1924. A reddish carrot of good quality.

62416. *DEUTZIA* sp. Hydrangeaceae.

No. 1287. En route from Shihchaying to Huangan. November 8, 1924. A flowering shrub growing on the east slope of One Hundred Flower Mountain.

62417. *DIOSPYROS LOTUS* L. Diospyraceae. Persimmon.

No. 1440. Peking. November 20, 1924. Secured in the market. The so-called black date, the wild persimmon, universally used in this region as a stock upon which to graft the large Chinese varieties.

62418. *EUNYMIUS BUNGEANUS* Maxim. Celastraceae.

No. 1134. Peking. November 1, 1924. A fine-looking specimen of *Eunymus* growing out of a stone wall of a canal about one of the buildings in the Temple of Heaven grounds. The yellowish green leaves with pink stems and bright-red berries with yellowish arils make a remarkably fine showing.

62419. *FAGOPYRUM TATARICUM* (L.) Gaertn. Polygonaceae. Kangra buckwheat.

No. 1300. Huangan. November 8, 1924. Seeds of a variety known here as "sweet buckwheat."

62397 to 62509—Continued.

62420 to 62425. *FAGOPYRUM VULGARE* Hill
(*F. esculentum* Moench). Polygonaceae.
Buckwheat.

62420. No. 1181. Fzuchiawu. November 4, 1924. Secured from the priest at the Neptune temple.

62421. No. 1236. Chihyukou. November 6, 1924. A representative of the type grown on the rather heavy clay soil, at an altitude of probably 3,000 to 4,000 feet.

62422. No. 1267. November 7, 1924. Secured in Shihchihying, located on the eastern slope of One Hundred Flower Mountain, in the Western Hills.

62423. No. 1301. Huangzan. November 8, 1924. "Bitter buckwheat."

62424. No. 1365. Hsiamaling. November 10, 1924.

62425. No. 1475. Peking. November 25, 1924. Secured from the Hengsheng tea shop.

62426 and 62427. *HELIANTHUS ANNUUS* L.
Asteraceae. **Sunflower.**

62426. No. 1499. Peking. November 27, 1924. Large seeds sent in to the market from Kalgan.

62427. No. 1500. Peking. November 27, 1924. Smaller seeds than No. 1499 [S. P. I. No. 62426]. These were also shipped in from Kalgan.

62428. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. **Sorghum.**

No. 1467. Peking. November 25, 1924. Red kaoliang secured from Yung-hohseu.

62429. *HORDEUM VULGARE COELESTE* L.
Poaceae. **Six-rowed barley.**

No. 1476. Peking. November 25, 1924. A broad-grained, hull-less barley from the Xu Mao Hao shop.

62430. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. **Six-rowed barley.**

No. 1473. Peking. November 25, 1924. A variety called "King barley" by the Chinese, secured from the Hengsheng tea shop.

62431. *JUNIPERUS CHINENSIS* L. Pinaceae. **Chinese juniper.**

No. 1401. Yenchia. November 11, 1924. Secured from trees growing in an old Chinese cemetery.

62432. *LACTUCA SATIVA* L. Cichoriaceae. **Lettuce.**

No. 1068. Peking. October 30, 1924. The stalk, after being peeled and cut into small pieces, is boiled with meat.

62433. *MALUS* sp. Malaceae. **Apple.**

No. 1099. Peking. October 31, 1924. These creamy yellow fruits with an occasional pink blush were purchased in the market.

62434. *PANICUM MILIACEUM* L. Poaceae. **Proso.**

No. 1235. Chihyukou. November 6, 1924. This millet is commonly grown in this region in rather heavy clay, at an altitude of 3,000 to 4,000 feet.

62397 to 62509—Continued.

62435. *PERILLA FRUTESCENS* (L.) Britton
(*P. ocyroides* L.). Menthaceae. **Perilla.**

No. 1466. Peking. November 25, 1924. Used for bird feed and for the oil contained in the seeds.

62436 to 62469. *PHASEOLUS* spp. Fabaceae.

62436 to 62440. *PHASEOLUS AUREUS* Roxb. **Mung bean.**

62436. No. 1182. Fzuchiawu. November 4, 1924. A yellow bean secured from the priest of the Neptune temple.

62437. No. 1185. Fzuchiawu. November 4, 1924. A green bean secured from the priest of the Neptune temple.

62438. No. 1237. Chihyukou. November 6, 1924. A brown bean growing in heavy clay soil in a mountainous region, at an altitude of 3,000 to 4,000 feet.

62439. No. 1367. Hsiamaling. November 10, 1924. A green bean growing on a terraced mountain side several hundred feet above the Hon River.

62440. No. 1461. Peking. November 25, 1924. A green bean secured from the shop of Yung Ho Hseu. Used extensively in the manufacture of vermicelli and for bean sprouts.

62441 and 62442. *PHASEOLUS CALCARATUS* Roxb. **Rice bean.**

62441. No. 1238. Chihyukou. November 6, 1924. A long, slender, white bean growing in rather heavy clay, at an altitude of 3,000 to 4,000 feet.

62442. No. 1362. November 10, 1924. Secured from Hsiamaling where it was growing on a terraced mountain side in a friable loam, several hundred feet above the Hon River. This variety is known here as "small southern bean" and in other places as "rice bean."

62443 to 62469. *PHASEOLUS VULGARIS* L. Fabaceae. **Common bean.**

62443. No. 1100. Peking. October 31, 1924. A large, red bean with a white hilum, secured in the market.

62444 to 62455. Chihyukou. November 6 and 7, 1924. These varieties of beans are large.

62444. No. 1240. Red.

62445. No. 1240a. White.

62446. No. 1240b. Creamy pink.

62447. No. 1240c. Black.

62448. No. 1240d. White with purple marking.

62449. No. 1240e. Purple.

62450. No. 1240f. Mottled pink and purple.

62451. No. 1240g. Creamy yellow.

62452. No. 1268. Red or pink.

62453. No. 1268a. Creamy pink.

62397 to 62509—Continued.

62454. No. 1268b. Creamy white with purplish cast and deep-purple blotches.
62455. No. 1268c. White.
- 62456 to 62463. Huangán. November 8, 1924.
62456. No. 1308a. White.
62457. No. 1308b. Red.
62458. No. 1308c. Creamy pink.
62459. No. 1308d. Creamy pink mottled with a darker pink.
62460. No. 1308e. Mottled with dark purple and purplish pink.
62461. No. 1308f. Brown.
62462. No. 1308g. Black.
62463. No. 1308h. Mottled black and brown.
- 62464 to 62466. Hsiámaling. November 10, 1924. Large, climbing beans secured several hundred feet above the Hon River.
62464. No. 1364. Red.
62465. No. 1364a. Brown and light pink.
62466. No. 1364b. Blotched grayish purple and brown.
62467. No. 1456. Peking. November 25, 1924. A large red garden bean secured from Yung Ho Hseu.
62468. No. 1457. Peking. November 25, 1924. A large white garden bean secured from Yung Ho Hseu.
62469. No. 1471. Peking. November 25, 1924. A yellow, garden bean, tinged with pink, secured in the Hengsheng tea shop.
62470. *PINUS BUNGEANA* Zucc. Pinaceae. Lacebark pine.
No. 1176. Tomb of Chuang Wang, near the village of Fzuchiawu. November 4, 1924. A white-barked pine.
- 62471 and 62472. *PINUS SINENSIS* Lambert. Pinaceae. Chinese pine.
62471. No. 1421. November 12, 1924. From Hsi Fen Shang, at the Su Chen Wang temple, located on the Hon River, a few miles above Meuloukou.
62472. No. 1175. Tomb of Chuang Wang, near the village of Fzuchiawu. November 4, 1924. A peculiarly flat-topped, yellow pine quite common about Peking.
62473. *PISUM SATIVUM* L. Fabaceae. Pea.
No. 1463. Peking. November 25, 1924. A round, creamy white, field pea, used chiefly for sprouts. Presented by Yung Ho Hseu.
62474. *ROSA* sp. Rosaceae. Rose.
No. 1290. November 8, 1924. Collected on Flower Mountain, which is said to have an altitude of 10,000 feet, while en route from Shihchiaying to Huangán. The hips are bright red, slender, and long, and the bark is light red.

62397 to 62509—Continued.

- 62475 to 62490. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.
62475. No. 1135. Peking. November 1, 1924. Yellow soy beans from the Temple of Heaven.
62476. No. 1178. Fzuchiawu. November 4, 1924. Black soy beans secured from the Neptune temple. This is a common variety grown in this section.
62477. No. 1179. Neptune temple, Fzuchiawu. November 4, 1924. A small, yellow soy bean.
62478. No. 1261. Shihchiaying. November 7, 1924. A yellow or creamy white soy bean grown in rather heavy gravelly soil, on a terraced mountain side.
62479. No. 1262. Shihchiaying. November 7, 1924. A black soy bean grown in rather heavy gravelly mountain soil.
62480. No. 1303. Huangán. November 8, 1924. A greenish soy bean grown in sandy or moderately light loam.
62481. No. 1306. Huangán. November 8, 1924. A yellow soy bean grown in gravelly friable loam.
62482. No. 1307. Huangán. November 8, 1924. A black soy bean which appears to be a different type from any we have yet secured.
62483. No. 1320. Chaitang, about 20 miles from Huangán. November 9, 1924. A yellow soy bean.
62484. No. 1321. Chaitang, about 20 miles from Huangán. November 9, 1924. A black soy bean.
62485. No. 1363. Hsiámaling. November 10, 1924. A yellow soy bean growing in friable loam.
62486. No. 1366. Hsiámaling. November 10, 1924. A black soy bean growing in friable loam.
62487. No. 1453. Peking. November 25, 1924. A black soy bean, white within, secured from Yung Ho Hseu.
62488. No. 1454. Peking. November 25, 1924. A rather rich-looking yellow soy bean secured from Yung Ho Hseu.
62489. No. 1455. Peking. November 25, 1924. A green soy bean secured from Yung Ho Hseu.
62490. No. 1474. Peking. November 25, 1924. A black soy bean, green within, secured from the Hengsheng tea shop.
62491. *SPIRAEA* sp. Rosaceae. Spirea.
No. 1289. November 8, 1924. Collected on the top of One Hundred Flower Mountain, while en route from Shihchiaying to Huangán. These seeds are from strong plants several feet in height, which appeared to be very free flowering.
62492. *SYRINGA* sp. Oleaceae. Lilac.
No. 1288. En route from Shihchiaying to Huangán. November 8, 1924. A flowering shrub, about 8 feet in height, growing on One Hundred Flower Mountain.

62397 to 62509—Continued.

62493 to 62495. *TRITICUM AESTIVUM* L.
(*T. vulgare* Vill.). Poaceae.

Common wheat.

62493. No. 1177. Fzuchiawu. November 4, 1924. A winter wheat secured from the temple of Neptune.

62494. No. 1469. Peking. November 25, 1924. A winter wheat secured from Yung Ho Hseu.

62495. No. 1470. Peking. November 25, 1924. A spring wheat secured from Yung Ho Hseu.

62496 to 62504. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

62496. No. 1180. Fzuchiawu. November 4, 1924. A red or pink cowpea secured from the Neptune temple.

62497. No. 1239. Chihyukou. November 6, 1924. A red or pink cowpea growing at an altitude of 3,000 to 4,000 feet in rather heavy clay.

62498. No. 1263. Shihchiang. November 7, 1924. A brown-eyed cowpea growing in rather heavy gravelly loam.

62499. No. 1298. Huangang. November 8, 1924. A brown-eyed cowpea.

62500. No. 1305. Huangang. November 8, 1924. This cowpea is mottled a light pink.

62501. No. 1368. Hsiamaling. November 10, 1924. A purple-eyed cowpea growing in friable soil.

62502. No. 1369. Hsiamaling. November 10, 1924. A pink cowpea growing in friable loam.

62503. No. 1459. Peking. November 25, 1924. A pink and white blotched cowpea secured from Yung Ho Hseu.

62504. No. 1462. Peking. November 25, 1924. A creamy brown cowpea mottled a darker brown.

62505 to 62509. *ZEA MAYS* L. Poaceae. Corn.

62505. No. 1183. Fzuchiawu. November 4, 1924. A small, white flint corn showing a few grains of yellow; growing in a rather stiff clay loam.

62506. No. 1231. Chihyukou. November 6, 1924. A white flint corn growing in a rather heavy clay, at an altitude of 3,000 to 4,000 feet.

62507. No. 1232. Chihyukou. November 6, 1924. A heavy flint corn growing in a rather heavy clay, at an altitude of 3,000 to 4,000 feet.

62508. No. 1310. Huangang. November 8, 1924. A yellow flint corn growing in a friable loam.

62509. No. 1311. Huangang. November 8, 1924. A red flint corn. Three types, yellow, red, and white, are grown in this village.

62510 to 62512.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 13, 1925. Notes by Mr. McClure.

62510. *ALEURITES MONTANA* (Lour.) Wilson. Euphorbiaceae. Mu-oil tree.

No. 3. October 25, 1924. *Tung Yau Shue* and *Muk Yau Shue*. Seeds col-

62510 to 62512—Continued.

lected from a tree growing in a public burying ground (Kung Yik Shan Chong), about 1½ miles from Wuchow, Kwangsi. There is said to be only one species of wood-oil tree grown in this region. The fruits of this species are obovate in form, with usually three ridges extending from the base, gaining in prominence as they approach the apex, where they join in a sharp point. The fruits are usually gathered in November and, after being husked and dried, are crushed in a crude ox-power grinder, consisting of a deep, circular stone gutter in which an iron wheel runs. The crushed nuts are then placed in a press, crudely fashioned from a log, and the oil expressed by means of wedges driven into place with a battering ram. The tree seems to grow equally well on all soils, from limestone to red sandy soil.

62511. *PIRUS* sp. Malaceae. Pear.

No. 21. Wuchow, Kwangsi. October 25, 1924. *Ka Sha Lei*, *Tong Lei Tsz*, and *Shan Cha Tsz*. Seeds from fruits brought to the market by natives who collected them in the wild. These rusty brown fruits, about the shape of a round apple and up to 3 centimeters in diameter, are pickled or eaten whole by the natives.

62512. *THEA OLEIFERA* (Abel) Rehd. and Wils. Theaceae.

No. 22. Tungon, Kwangtung. November 15, 1924. *Cha Tsai* and *Yau Cha*. Seeds secured by the assistance of Chan Hung On, who gives the following information: A tree 3 to 4 meters high, growing in the wild, sometimes semicultivated in the hills. It bears flowers and fruits all the year round, fruiting most abundantly in August. The flowers are white and fragrant. The oil, expressed from the seeds by the same process used to express the wood oil [see S. P. I. No. 62510], is used in cooking and by the women as a hair dressing, in which case perfume is often added.

62513 to 62518. *ALEURITES MONTANA* (Lour.) Wilson. Euphorbiaceae.

Mu-oil tree.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 24, 1925. Notes by Mr. McClure.

62513. No. 4. October 25, 1924. *Tung Yau Shue* and *Muk Yau Shue*. Seeds from a tree found growing in a public burying ground (Kung Yik Shan Chong) about 1½ miles from Wuchow, Kwangsi. The same as No. 3 [S. P. I. No. 62510] in every respect except that the fruits were uniformly more pointed at the apex and the three ridges were sharper.

62514. No. 5. October 25, 1924. *Tung Yau Shue* and *Muk Yau Shue*. Seeds collected from a tree growing in a public burying ground (Kung Yik Shan Chong) about 1½ miles from Wuchow, Kwangsi. This tree was young, perhaps 4 years old, but was bearing very prolifically.

62515. No. 6. October 25, 1924. *Tung Yau Shue* and *Muk Yau Shue*. Seeds from a tree growing in the Christian Missionary Alliance compound across the river from Wuchow, Kwangsi. No record has ever been kept of the yield, but an estimate of 4 to 5 piculs (133 pounds) seems conservative.

62513 to 62518—Continued.

62516. No. 7. October 25, 1924. *Tung Yau Shue* and *Muk Yau Shue*. Seeds collected from a large tree in the Christian Missionary Alliance compound across the river from Wuchow, Kwangsi. This tree is said by the Chinese to occasionally bear staminate flowers.

62517. No. 8. October 25, 1924. *Tung Yau Shue* and *Muk Yau Shue*. Seeds from a large and prolific tree in the Baptist Mission compound at Wuchow, Kwangsi. These trees differ from the foregoing numbers of this species in having the leaves more uniformly three lobed and in greater prolificity of fruits, which are borne in clusters of 8 to 11.

62518. No. 9. October, 1924. *Tung Yau Shue* and *Muk Yau Shue*. Seeds secured through the Hongkong Botanic Gardens from Shihung, in Kwangtung Province.

62519 to 62521. *FRAGARIA* spp. *Rosa-ceae*. Strawberry.

From Orleans, France. Plants presented by Edmond Versin, St. Jean le Blanc. Received February 3, 1925. Notes by Mr. Versin.

62519. *FRAGARIA* sp.

Nomblot-bruneau. An early variety with enormous sweet-flavored fruits.

62520. *FRAGARIA* sp.

Géante rouge. A new, large-yielding variety, with very large rounded fruits; five or six fruits sometimes weigh a pound.

62521. *FRAGARIA* sp.

L'Indispensable. An everbearing, very prolific variety, quite hardy; the plant does not disappear in winter. The fruits are larger than those of *Docteur Morère*, juicy, sweet, with firm red flesh of fine quality, and stand shipping well. It bears from June until frost.

62522. *RUBUS* sp. *Rosaceae*.

From Bedford, England. Plants purchased from Laxton Bros. Received February 5, 1925.

The *Laxtonberry*. A hybrid between the raspberry and loganberry, but being rather self-sterile should be planted near other berries. (*Laxton Bros. catalogue*.)

62523 to 62550. *ORYZA SATIVA* L. *Poa-ceae*. Rice.

From Nishigahara, Tokyo, Japan. Seeds presented by H. Ando, director, Imperial Agricultural Experiment Station. Received February 17, 1925. Notes by Mr. Ando.

These varieties have been grown at our station and purebred through several years.

62523 to 62535. Early-maturing varieties.

62523. No. 1. *Nigôhan*.

62524. No. 2. *Homura*.

62525. No. 3. *Akage*.

62526. No. 4. *Mesibu*.

62527. No. 5. *Ôba*.

62528. No. 6. *Kamenoo*.

62523 to 62550—Continued.

62529. No. 7. *Turugi*.

62530. No. 8. *Fuji-wase*.

62531. No. 9. *Jyôsyû*.

62532. No. 10. *Sinagawa*.

62533. No. 11. *Sinsyû*.

62534. No. 12. *Sen'iti*.

62535. No. 13. *Yamatodikara*.

62536 to 62547. Medium-maturing varieties.

62536. No. 14. *Jôhô*.

62537. No. 15. *Aikoku*.

62538. No. 16. *Nakajima-bôju*.

62539. No. 17. *Kairyô-funkuyama*.

62540. No. 18. *Ômi*.

62541. No. 19. *Isihiro*.

62542. No. 20. *Kunitomi*.

62543. No. 21. *Tamanisiki*.

62544. No. 22. *Wasesinriki*.

62545. No. 23. *Sekitori*.

62546. No. 24. *Hozoroi*.

62547. No. 25. *Araki*.

62548 to 62550. Late-maturing varieties.

62548. No. 26. *Takenari*.

62549. No. 27. *Sugaippon*.

62550. No. 28. *Siragihiei*.

62551 to 62557.

From Ambato, Ecuador. Presented by Prof. Augusto Martinez, through Wilson Popenoe, agricultural explorer, Bureau of Plant Industry. Received February 28, 1925. Notes by Doctor Popenoe.

62551. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). *Amygdalaceae*. Peach.

No. 703. Scions. Peaches have been grown for several centuries in the Ecuadorian highlands, particularly in the region of Ambato. Since propagation has been almost entirely by seed, there are as many varieties as there are trees in this region. The majority of them produce fruit of inferior quality, judged by our standard, but an occasional one is really good. Professor Martinez has searched for the best and has propagated them by budding. A few trees of selected varieties have thus been established at the Quinta Normal in Ambato.

The one represented by this number has been named *Juan Leon Mera* by Professor Martinez, honoring the well-known Ecuadorian poet and writer, in whose garden in Ambato the variety originated. This is a white freestone, of medium size and excellent flavor. It is interesting to us, principally because it may prove adapted to subtropical climates.

62552. *CARICA PENTAGONA* Heilborn. *Papayaceae*.

No. 700. Plants. This will stand several more degrees of frost than the papaya, while its fruits, nearly a foot in length, are excellent when stewed or preserved. This plant is fully described in my bulletin, *Economic Fruit-Bearing Plants of Ecuador*, Contributions from the United States National Herbarium, vol. 24, pt. 5, 1924.

62551 to 62557—Continued.

62553 and 62554. *PRUNUS SEROTINA* Ehrh.
Amygdalaceae. Capulin cherry.

62553. No. 701. Scions. It is worthy to note that the old Gonzales tree at Catiglatá, famous throughout the Ecuadorian highlands, is dying. Professor Martinez, however, has established young budded trees at the Quinta Normal and at his own quinta in Catiglatá, so the variety will not be lost. This variety is described and illustrated in the Journal of Heredity, February, 1922, and is also described in a previous inventory under S. P. I. No. 52720.

62554. No. 702. Scions. An excellent variety which originated in the quinta of Professor Martinez at Catiglatá, near Ambato. It may even be superior to the Gonzales; the fruit is of practically the same size and appearance, and the only difference is in the flavor, which seems a bit sweeter than that of the Gonzales.

62555. *PIRUS COMMUNIS* L. Malaceae. Pear.

No. 710. Plants. The so-called *pera nacional*, or native pear, brought here by the Spanish in early colonial days. It is propagated by suckers, for the fruits rarely contain seeds. The fruits are small and of fair quality.

62556. *RUBUS GLAUCUS* Benth. Rosaceae. Andes raspberry.

No. 711. Plants of the typical form of the Andes raspberry from the Quinta "La Lira" of Professor Martinez. The Andes berry, introduced by this office several years ago, promises to prove valuable for cultivation in the warmest parts of the United States and in other subtropical regions.

For previous introduction, see S. P. I. No. 52717.

62557. *VITIS* sp. Vitaceae. Grape.

No. 712. Cuttings. From the garden of Professor Martinez, a species which he believes was brought from Santo Domingo de los Colorados, in the hot, moist lowlands on the western slopes of the Andes. Professor Martinez says this grape does not fruit in the climate of Ambato, though it vegetates vigorously and blossoms freely. He knows nothing regarding the quality of its fruit, but believes the latter to be edible and of fair size.

62558 and 62559. *VITIS VINIFERA* L. Vitaceae. European grape.

From Key West, Fla. Cuttings presented by George E. Murrell, horticulturist of the Southern Railway. Received March 2, 1925.

Cuttings of the so-called "Key" grape, commonly grown in the Florida Keys.

62558. No. 1. 62559. No. 2.

62560 to 62562.

From Chihli, China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 2, 1925. Notes by Mr. Dorsett.

62560. *POPULUS* sp. Salicaceae. Poplar.

No. 1915. Tsaochiaio, near Fungtai. January 27, 1925. Cuttings of what is known here as the Chinese large-leaf poplar.

62560 to 62562—Continued.

62561. *ROSA* sp. Rosaceae. Rose.

No. 1913. Village of Kechiatsum, near Fungtai. January 27, 1925. Plant and cuttings of a small-leaved rose known as *Mu Hsiang*.

62562. *ZIZIPHUS JUJUBA* Mill. (*Z. sativa* Gaertn.). Rhamnaceae. Jujube.

No. 1916. Kechiatsum, near Fungtai. January 27, 1925. Scions of what is reported to be a large "apple" jujube. *Ping Kuo Tsao*, secured by Mr. Li.

62563 and 62564. *SOLANUM TUBEROSUM* L. Solanaceae. Potato.

From Wolverhampton, England. Tubers presented by E. W. Keay. Received March 2, 1925.

62563. *Paterson Victoria* × *Magnum Bonum*. Hybrid seedling No. 373.

62564. *Catriona*. A second early variety grown to some extent in Great Britain and on the Continent. The tubers are supposed to be kidney-shaped, with blue sprouts and colored skin. (William Stuart, Bureau of Plant Industry.)

62565. *HYPHAENE* sp. Phoenicaceae. Palm.

From Dar es Salaam, Tanganyika Territory, Africa. Seeds presented by the director, Department of Agriculture. Received March 18, 1925.

The palms of this genus are all indigenous to Africa and are remarkable in having branched stems, a character not common among palms. Each branch terminates in a tuft of large, fan-shaped leaves. One species (*Hyphaene thebaica*) bears fruits with fibrous husks which are eaten in Upper Egypt.

Received as *H. macrocarpa* Gaertn., for which a place of publication has not been found.

62566 to 62590.

From Elstree, Herts, England. Seeds presented by Vicary Gibbs, Aldenham House Gardens. Received February 20, 1925.

62566. *CARAGANA BOISI* C. Schneid. Fabaceae.

A handsome bush 10 to 12 feet high, with long, arching branches, native to Szechwan and eastern Tibet, China. In May the light-green foliage and numerous yellow flowers make this an especially attractive ornamental.

For previous introduction, see S. P. I. No. 56808.

62567. *CEANOTHUS THYRSIFLORUS* Eschw. Rhamnaceae.

Var. *Griseus*. An English horticultural form of a native American shrub.

62568 to 62584. *COTONEASTER* spp. Malaceae.

62568. *COTONEASTER DIELSIANA* ELEGANS Rehd. and Wils.

A variety differing from the typical form in having thinner and more persistent leaves and smaller, pendulous, coral-red fruits. The shrub is 6 feet or less in height, with slender, arching branches. Native to western China.

62569. *COTONEASTER LACTEA* Hort.

Forrest No. 10419.

62566 to 62590—Continued.

62570. *COTONEASTER MOUPINENSIS* Franch.

A cotoneaster commonly found in the thickets and margins of woods throughout western Szechwan at altitudes of 4,000 to 7,000 feet. According to E. H. Wilson (Sargent, *Plantae Wilsonianae*, vol. 1, p. 163) it is 6 to 15 feet high, with white flowers and jet-black fruits.

For previous introduction, see S. P. I. No. 55081.

62571. *COTONEASTER NEWRYENSIS* Hort.

62572. *COTONEASTER SALICIFOLIA* Franch.

A half-evergreen shrub, sometimes 15 feet in height, with white flowers produced in dense corymbs about 2 inches across and roundish, bright-red fruits, which, ripening in October, make the shrub particularly ornamental. Native to western China.

62573. *COTONEASTER* sp.

Farrer No. 403.

62574. *COTONEASTER* sp.

Farrer No. 404.

62575. *COTONEASTER* sp.

Farrer No. 405b.

62576. *COTONEASTER* sp.

Forrest No. 14948.

62577. *COTONEASTER* sp.

Forrest No. 14960.

62578. *COTONEASTER* sp.

Forrest No. 14976.

62579. *COTONEASTER* sp.

Forrest No. 15376.

62580 to 62584. These numbers were affixed by the Royal Horticultural Society and are not Forrest's own numbers.

62580. *COTONEASTER* sp.

No. 273.

62581. *COTONEASTER* sp.

No. 402.

62582. *COTONEASTER* sp.

No. 488.

62583. *COTONEASTER* sp.

No. 489.

62584. *COTONEASTER* sp.

No. 562.

62585. *LEPTOSPERMUM PUBESCENS* Lam. Myrtaceae.

The chief attractions of this evergreen Australian shrub lie in the small, myrtle-like foliage and the copiously produced white flowers which cover the shrub in the spring.

62586. *SORBUS DOMESTICA* L. (*Purus sorbus* Gaertn.). Malaceae. Service tree.

A round-headed tree, 30 to 60 feet high, which is often confounded with the European mountain ash (*Sorbus aucuparia*) from which it is distinguished by having larger flowers and fruits. The

62566 to 62590—Continued.

leaflets are sharply and rather coarsely serrate, and the white flowers, half an inch wide, are in terminal, broadly pyramidal clusters. The fruits, roundish or pear shaped, vary in size from half an inch to an inch and a half. The service tree is distributed throughout southern Europe, northern Africa, and western Asia.

62587. *VERONICA CUPRESSOIDES* Hook. f. Scrophulariaceae. Speedwell.

The veronicas, of which there are more than one hundred known species, constitute an important feature of the New Zealand flora, and many of them are popular ornamentals. This species belongs to a group known as the "whipcord" veronicas; the mature leaves are reduced to scales, usually pressed close to the branch and completely hiding it. It is described by Cockayne (*Cultivation of New Zealand Plants*, p. 70) as a tall, erect, cypresslike bush, 3 feet or more high, with dense, dark-green foliage and abundant purple flowers appearing in summer. In New Zealand this plant is sufficiently hardy to withstand a few degrees of frost.

62588. *VIBURNUM HUPEHENSE* Rehder. Caprifoliaceae. Hupeh viburnum.

A fairly hardy deciduous shrub, allied to *Viburnum wrightii*, with coarsely toothed, long-pointed, dark-green leaves, white flowers and ovoid, dark-red fruits. Native to central China.

For previous introduction, see S. P. I. No. 59401.

62589. *VIBURNUM VEITCHI* C. H. Wright. Caprifoliaceae. Veitch viburnum.

One of the most ornamental of the Lantana group, about 5 feet high, with young branches, leafstalks, and under surfaces of the leaves densely clothed with starlike down; the white flowers are in cymes 4 to 5 inches across, and the red fruits later become black. Native to central China.

For previous introduction, see S. P. I. No. 53752.

62590. *XANTHOCERAS SORBIFOLIA* Bunge. Sapindaceae.

A shrub, occasionally growing into a small-sized tree, found in loose soil. The shiny pinnate foliage reminds one of an ash, but the drooping racemes of white flowers, with yellow stamens, produced in great masses in early summer, give the shrub quite a distinct appearance. The Chinese eat the kernels of the fruits and call the plant "Mu kua hua," meaning "quince flower," because the large fruits resemble those of the Japanese quince (*Chaenomeles lagenaria*). This shrub, closely related to the horse-chestnut, is decidedly ornamental and of special value as a garden shrub for the semiarid sections of the United States where the winters are not too severe. (Frank N. Meyer, in note under S. P. I. No. 39431.)

62591 to 62598. *GOSSYPIUM* spp. Malvaceae. Cotton.

From Paris, France. Seeds presented by Prof. A. Chevalier, Laboratoire d'Agronomie Coloniale. Received February 26, 1925.

62591. *GOSSYPIUM ANOMALUM* Wawra.

This wild African cotton is described by Oliver (*Flora of Tropical Africa*, vol. 1, p. 211) as a shrub 5 to 10 feet in

62591 to 62598—Continued.

height, with rough branches, reddish flowers, and oval capsules about an inch in length.

For previous introduction, see S. P. I. No. 55410.

62592 to 62594. *GOSSYPIUM HERBACEUM* L.

62592. A brown variety.

62593. A white variety.

62594. A form with partly indehiscent capsules.

62595. *GOSSYPIUM NANKING* Meyen.

The "Chinese" cotton of commerce is, according to Watt (Wild and Cultivated Cottons of the World), an annual or perennial bush, with delicate, sparsely branched stems and imperfectly cordate leaves. The irregular-shaped seeds are densely coated with rufous velvet and bear a silky fiber, which, in all the better varieties, is white, but often shows a tendency to become reddish or khaki. This cotton is cultivated throughout tropical Asia.

62596. *GOSSYPIUM OBTUSIFOLIUM AFRICANUM* Watt.

From French Equatorial Africa.

An African variety which, according to Watt (Wild and Cultivated Cottons of the World), differs chiefly from the typical Indian species in having more copious and finer fiber.

62597. *GOSSYPIUM PUNCTATUM* Schum. and Thonn.

A wild cotton, found in tropical America and also in central and western Africa. It is described (Watt, Wild and Cultivated Cottons of the World) as a shrub with hairy, 3-lobed leaves, and yellow flowers spotted with purple. The fiber is pure white and silky.

62598. *GOSSYPIUM PUNCTATUM* × *BARBADENSE*.

Cultivated by the natives, but perhaps of recent introduction.

62599 to 62647.

From China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received February, 1925. Notes by Mr. Dorsett.

62599. *AMYGDALUS DAVIDIANA* (Carr.) Zabel (*Prunus davidiana* Franch.). Amygdalaceae. Chinese wild peach.

No. 1733. Fa Hua Ssu temple, near Haitzu. December 31, 1924. Seeds of *Shan Mao T'ao* (wild mountain peach) which is used by the Chinese as stock for their peaches and plums.

62600 to 62602. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

December 31, 1924. Scions from the Fa Hua Ssu temple.

62600. No. 1723. *Ma Nao Hung T'ao* (red agate peach). The freestone fruits, 3 to 4 inches in diameter, are red outside and white within, ripening during the early part of August. They are grafted on the wild peach.

62601. No. 1739. *Pai Tien T'ao* (white sweet peach). The fruits, 2 to 3 inches in diameter, are clingstones and ripen in early August. The wild peach is used as stock.

62599 to 62647—Continued.

62602. No. 1773. *Pi T'ao* (flowering peach). The twigs of blossoms, which fade from pink to white and then turn red, are sold here. The fruits, about 1½ inches in diameter and resembling apricots in shape, are freestone and ripen in September, becoming pink.

62603 and 62604. *CHAETOCHELOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.

62603. No. 1597. *Lou Tai*. Seeds of a white millet collected in a large valley between Peking and Tientsin. December 16, 1924.

62604. No. 1737. Fa Hua Ssu temple. December 31, 1924. Seeds of the *Fo Shou Nien Ku* (Buddha's finger millet). A millet having yellow seeds.

62605. *CRATAEGUS PINNATIFIDA* Bunge. Malaceae. Chinese hawthorn.

No. 1746. Fa Hua Ssu temple. December 31, 1924. Scions of what is reported to be a large, red hawthorn, about 1 inch in diameter, and which ripens during the middle of October. It was growing on mountain sides and in narrow valleys at an altitude of 6,000 to 12,000 feet.

62606. *ECHINOCHLOA CRUSGALLI EDULIS* Hitchc. Poaceae. Barnyard millet.

No. 1600. Loutai. December 16, 1924. Seeds of the *Pai Tzu* (tare). When other foods are scarce this variety is ground into flour and used.

62607. *FAGOPYRUM VULGARE* Hill (*F. esculentum* Moench.). Polygonaceae. Buckwheat.

No. 1590. Loutai. December 16, 1924.

62608 to 62610. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

Loutai. December 16, 1924.

62608. No. 1591. *Nien Kaoliang* (sticky kaoliang).

62609. No. 1592. *Hung Kaoliang* (red kaoliang). Said to have long flower and seed stalks.

62610. No. 1593. *Pai Kaoliang* (white kaoliang).62611. *JUGLANS MANDSHURICA* Maxim. Juglandaceae.

No. 1735. Fa Hua Ssu temple. December 31, 1924. *Shan Ho T'ao* (wild mountain walnut). Used for stock here when the walnut is grafted.

62612 to 62615. *JUGLANS REGIA* L. Juglandaceae. Persian walnut.

Fa Hua Ssu temple.

62612. No. 1736. December 31, 1924. Seeds of *Shan Ma Ho T'ao* (wild mountain walnut). The nuts are broader than long and have a heavy keel and are quite rough. Used for stock here.

62613. No. 1766. January 5, 1925. Scions of *Ying Pi Ho T'ao* (thick-shelled walnut) from a 10-year-old tree that has been bearing for three years.

62599 to 62647—Continued.

62614. No. 1767. January 5, 1925. Scions of *Pao P'i Ho T'ao* (thin-shelled walnut) from a tree 50 or 60 years old which ripens in early September. It is said that if these walnuts are allowed to fall from the trees they will break.

62615. No. 1778. January 5, 1925. Scions of *Pao P'i Hsiao Ho T'ao* (thin-shelled small walnut) about an inch in diameter. The fairly smooth nuts ripen in early September.

62616 to 62624. *MALUS* spp. Malaceae. Apple.

Fa Hua Ssu temple.

62616. *MALUS* sp.

No. 1719. December 31, 1924. Seeds of *Shan Ting Tzu* (wild mountain crab apple) which may prove useful as a dwarfing stock. The fruits are very small and yellowish.

62617. *MALUS* sp.

No. 1720. December 31, 1924. *Hung Sha Kuo* (red crab apple). A sweet, sand crab apple, about 1 to 1½ inches in diameter, and which is a little longer than broad. Ripens about the middle of August.

62618. *MALUS* sp.

No. 1734. December 30, 1924. Offshoots of *Shan Ting Tzu* (wild mountain crab apple). Seeds were sent in under No. 1719 [S. P. I. No. 62616].

62619. *MALUS* sp.

No. 1741. December 3, 1924. Scions of *Hung Sha Kuo* (red crab apple) 1 to 1½ inches in diameter, which ripens the middle of August. It is grafted on the wild crab apple.

62620. *MALUS* sp.

No. 1745. December 31, 1924. Scions of *Pai Hai T'ang* (small white crab apple) which ripens in September. This crab apple was growing on terraced mountain sides and in narrow valleys at altitudes of 6,000 to 12,000 feet.

62621. *MALUS* sp.

No. 1750. December, 1924. Scions of *Sha Kuo* (sand crab apple). A red crab apple, 1 inch in diameter, which ripens in early August.

62622. *MALUS* sp.

No. 1762. December 30, 1924. Scions of a large apple, 2½ to 4½ inches in diameter, which ripens between the middle of July and the middle of August, becoming green with a pink or red blush. Grafted on the wild mountain crab apple.

62623. *MALUS* sp.

No. 1763. December 30, 1924. Scions of a very sweet, fragrant apple, 2½ to 3 inches in diameter, which is green with a red blush. Grafted on the wild crab apple.

62624. *MALUS* sp.

No. 1777. January 5, 1925. Scions of *Suan Pin Tzu* (sour purple crab apple). A white-fleshed crab apple, 1½ to 2 inches in diameter, which ripens in early September. Grafted on the wild crab apple.

62599 to 62647—Continued.

62625 to 62627. *PANICUM MILIAECUM* L. Poaceae. Proso.

Loutai. December 16, 1924. Said to be used both for human food and for stock.

62625. No. 1596. A sticky, white-seeded variety.

62626. No. 1598. A dark-brown variety.

62627. No. 1599. A variety having light-colored seeds.

62628 to 62632. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

Fa Hua Ssu temple.

62628. No. 1725. December 31, 1924. Scions of *Ta Huang Hsing* (large yellow apricot), the kernel of which is sweet; ripens about the end of June, becoming yellow with a red blush. Grafted on the wild peach and apricot.

62629. No. 1732. December 31, 1924. Scions of *Hung Lao Yieh Lien Hsing* (red-faced apricot). A freestone variety, 1 to 1½ inches in diameter, which ripens the last of June. The flesh is white and the kernel is sweet.

62630. No. 1740. December 3, 1924. Scions of the same variety as No. 1732 [S. P. I. No. 62629], but from a different tree.

62631. No. 1742. December 31, 1924. Scions of *Pien Tzu Hsing* (flat apricot). The broad fruits, which are sold only for the kernels, ripen at the end of June.

62632. No. 1764. January 5, 1925. Seeds of *Shan Mao Hsing* (wild mountain apricot), the trees of which grow to a good size. Used as stock upon which to work the commercial varieties, both fruiting and the sweet kernel. It is claimed that when this wild apricot is used as stock there is less trouble from worms in the fruits.

62633 to 62638. *PRUNUS* spp. Amygdalaceae.

Scions from the Fa Hua Ssu temple.

62633. *PRUNUS* sp. Plum.

No. 1712. December 30, 1924. *Shui Hung Li Tzu* (water red plum). The round fruits, 1 to 1½ inches in diameter, ripen the beginning of July. Grafted on the wild peach.

62634. *PRUNUS* sp. Plum.

No. 1744. December 31, 1924. *Tien Li Tzu* (sweet plum). A variety which ripens at the end of July, becoming purple and red. The fruits are round, about an inch in diameter.

62635. *PRUNUS* sp. Plum.

No. 1748. December 31, 1924. *Hsing Li Tzu* (red plum), 1½ to 2 inches in diameter, which ripens at the end of July. The flesh is yellow.

62636. *PRUNUS* sp. Cherry.

No. 1769. January 5, 1925. *Hung Shan Tou Tzu* (mountain bean red cherry). The trees are about 10 feet in height and 3 to 4 inches in diameter. The small fruits ripen during the middle of May. Grafted on the wild peach.

62599 to 62647—Continued.

62637. *PRUNUS* sp.

Cherry.

No. 1770. January 5, 1925. *Pai Shan Tou Tzu Ying Tao* (mountain bean white cherry). The trees grow to a height of 10 or 12 feet and 3 to 4 inches in diameter. The small fruits ripen during the middle of May. Grafted on the wild peach.

62638. *PRUNUS* sp.

Cherry.

No. 1772. January 5, 1925. *Nau Ying Tao* (southern sweet cherry). This particular tree was 30 years old. The fruits are of average size and ripen in May, becoming pink.

62639 to 62647. *PYRUS* spp. Malaceae.

Pear.

Scions from the Fa Hua Ssu temple.

62639. *PYRUS* sp.

No. 1713. December 31, 1924. *Sha Kuo Li* (crab-apple pear). The fruits of this summer pear are about 1½ to 2 inches in diameter, and ripen at the end of August, becoming light yellow blushed with red.

62640. *PYRUS* sp.

No. 1726. December 31, 1924. *Ch'in Chin Pa Li* (autumn golden handle pear). The fruits, 2 to 3 inches in diameter, ripen about the middle of September, becoming yellow. Grafted on the wild mountain pear.

62641. *PYRUS* sp.

No. 1749. December 31, 1924. *Shih Ping T'ang Li* (dry persimmon sugar pear). The yellow fruits, 3 or more inches in diameter, ripen during the middle of October.

62642. *PYRUS* sp.

No. 1751. December 31, 1924. *Ta Tzu Hsiang Li* (fragrant pear). A yellow pear, 2 to 3 inches in diameter, with a small core. Ripens late in August.

62643. *PYRUS* sp.

No. 1765. January 5, 1925. *Hung Hsai Li* (red sour pear). The fruits, 2 to 3 inches in diameter, ripen in September, becoming yellow with a red or pink blush.

62644. *PYRUS* sp.

No. 1768. January 5, 1925. *Chin Chin Li* (golden handle pear).

62645. *PYRUS* sp.

No. 1774. January 5, 1925. *P'ing Kuo Li* (apple pear). The white-fleshed fruits, the size of large apples, are white with a pink blush. Ripens at the end of September.

62646. *PYRUS* sp.

No. 1775. January 5, 1925. *Ta Tzu Hsiang Li* (fragrant pear). A yellow pear, about 2 inches in diameter, which ripens at the end of September.

62647. *PYRUS* sp.

No. 1776. January 5, 1925. *Pan Chin Su Li* (half-catty brittle pear). The yellow fruits ripen during the early part of October. This is said to be the largest of the pears, being 2 to 3 inches or more in diameter.

62648. *ARTEMISIA* sp. Asteraceae.

Wormwood.

From Peking, Chihli, China. Roots collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received February 25, 1925.

No. 1816. January 12, 1925. The small, fragrant, aromatic roots, after being cleaned, are chopped into small pieces, dipped in hot water, and eaten fresh with soy-bean sauce, vinegar, a little pepper and salt, sesame oil, and a little sugar. (Dorsett.)

62649 and 62650. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

From Buitenzorg, Java. Seeds presented by L. Koch, chief, Plant Breeding Station. Received February 14, 1925.

These varieties have given good results here during the past few years. (Koch.)

62649. *Suarte Kedele* No. 3.62650. *Witte Kedele* No. 17.

62651. *DENDROCALAMUS MACROCULMIS* Hort. Poaceae. Bamboo.

From Algiers, Algeria. Cuttings collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 19, 1925.

One of the giant bamboos which was introduced from Cochin China by the Jardin des Plantes in Paris and sent here for trial. There is now a splendid avenue of it in the Jardin d'Essais, at Algiers. This is a clump species, very distinct and valuable. (Fairchild.)

62652. *DIOSCOREA* sp. Dioscoreaceae.

Yam.

From Chihli, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 5, 1925.

No. 1283. November 8, 1924. Collected on the eastern side of One Hundred Flower Mountain, en route from Shihchiayang to Huang'an, at an altitude of 10,000 feet. (Dorsett.)

62653. *GLADIOLUS HIRSUTUS* Jacq. Iridaceae.

From Kirstenbosch, Cape Province, South Africa. Bulbs presented by Prof. R. H. Compton, National Botanic Gardens. Received March 27, 1925.

About a foot in height, this species has bright-red flowers borne in a very lax, few-flowered, secund spike. The sword-shaped leaves are strongly ribbed.

According to Dr. Rudolph Marloth, Cape Town, South Africa, this plant grows in sandy stretches which are moist only during the winter.

62654 to 62656. *PISUM SATIVUM* L. Fabaceae. Pea.

From Stirling, Scotland. Seeds purchased from W. Drummond & Sons, through D. N. Shoemaker, Bureau of Plant Industry. Received March 27, 1925.

Introduced for horticulturists testing pea varieties.

62654. *Drummond's Early Multiple*.62655. *New Main Crop Chancellor*.62656. *The Bell*.

62657. HELIANTHUS TUBEROSUS L. Asteraceae. Jerusalem artichoke.

From Saonara, Padova, Italy. Tubers purchased from Fratelli Sgaravatti. Received March 29, 1925.

Locally grown tubers.

62658. CITRUS WEBBERII Wester. Rutaceae. Alsem.

From Manila, Philippine Islands. Seeds presented by P. J. Wester. Received March 30, 1925.

A small, handsome tree, 15 to 30 feet high, which is particularly abundant in the mountain Province, Nueva Viscaya, and southern Luzon. The better forms have oblate, very juicy, acid fruits somewhat like the mandarin in appearance and up to 2½ inches in diameter; these may be used like the lemon. The species is very variable and appears promising as a citrus stock. (Wester.)

62659. VIOLA ODORATA L. Violaceae. Violet.

From Killaloe, County Clare, Ireland. Plants purchased from Mrs. Stanistreet. Received February 7, 1925.

King of the Belgians (synonym, Kaiser Wilhelm). The large, rich, deep-purple flowers, very highly perfumed, are borne on long firm stems. This is a magnificent violet, probably the best single variety, and it is very rare. (Stanistreet.)

62660 to 62674.

From Algeria. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 21, 1925. Notes by Doctor Fairchild.

62660. ARGANIA SPINOSA (L.) Skeels (A. sideroxylon Roem. and Schult.). Sapotaceae. Argan.

The argan tree of western Morocco is very limited in its range, occurring only in that part of the African continent. It grows to a large size and bears an abundance of light-yellow fruits somewhat resembling in shape small plums. Cattle and goats are said to feed upon these fruits, which contain a large amount of nourishment, although the fruits are exceedingly acrid to the taste. The seeds are very thick walled and go through the intestines of the animals undigested. These seeds are also used for the oil contained in them. Apparently the tree is not injured by frost, and it may thrive wherever hardy citrus grows.

62661. ATROPA BAETICA Willk. Solanaceae.

A species related to belladonna and of possible interest to drug-plant specialists. Presented by Professor Maire, of the University of Algiers.

62662. CAPPARIS SPINOSA L. Capparidaceae. Caper.

Var. inermis. A spineless form of the caper of commerce, presented by the Botanic Gardens, University of Algiers.

62663. CASUARINA SUBEROSA Otto and Dietr. Casuarinaceae.

A species with very large fruits (4 centimeters) and long, coarse, pendent branchlets, very distinct from *Casuarina equisetifolia*. This species is evidently hardier, for the trees from which these

62660 to 62674—Continued.

seeds were gathered have stood temperatures of 26° F. Presented by Doctor Trabut from his Jardin d'Essais at Maison Carree, Algeria.

62664. CASUARINA SP. Casuarinaceae.

Probably *Casuarina suberosa* × *C. cunninghamiana*. A form which appeared at the Jardin d'Essais of Maison Carree, Algeria. By judicious clipping it has produced a beautiful hedge which resembles closely those produced in Florida with *C. equisetifolia*. This form is apparently hardier, for Maison Carree has been visited by temperatures below 26° F., and it has never been injured.

62665. CORDIA OBLIQUA Willd. Boraginaceae.

A handsome shade tree from Cochinchina which has proved hardy in the Botanic Gardens of Mustapha, where the temperature sometimes goes below freezing. Because of its handsome foliage and good habit of growth, this may be worth considering as an avenue tree. Presented by Prof. R. Maire, director of the botanic gardens, University of Algiers.

62666. × EUCALYPTUS ALGERIENSIS Trabut. Myrtaceae.

A hybrid between *Eucalyptus rostrata* and *E. rudis* which has become naturalized in North Africa and now covers considerable areas of the hills around Algeria. It differs from *E. rudis* by its smooth trunk, its small flowers with the hemispherical operculum not beaked, and from *E. rostrata* by its buds, which are white like those of *E. rudis*. *Eucalyptus rudis* flowers in the month of December, *E. algeriensis* flowers in the spring, while *E. rostrata* flowers in July and August. Presented by Professor Maire, of the University of Algiers.

62667. HYOSCYAMUS FALEZLEZ COS. Solanaceae.

This is known to the Touaregs as "Afahehlé." It is common in the southern part of the Sahara, where its toxic properties are well known to the natives. It can be eaten by camels, goats, and sheep, but is very poisonous to horses and donkeys. It is believed that Afahehlé fattens ruminants and also women, corpulency among the latter being considered a mark of beauty. (L. Trabut, in note under S. P. I. No. 60257.)

62668. LENTILLA LENS (L.) W. F. Wight (Lens esculenta Moench.). Fabaceae. Lentil.

Var. nigricans. A very delicate variety of this genus which furnishes the lentil of commerce.

62669. LYCOPERSICON ESCULENTUM Mill. Solanaceae. Tomato.

An early variety of tomato called *Précoces Côtelées* (early ribbed) which is being grown along the seacoast of North Africa under the protection of windbreaks made of the canes of *Arundo mauritanica* and which may prove unusually early when grown in southern Florida. The plants are trained to a single stem and pinched back.

62670. ONOPORDON DISSECTUM Murbeck. Asteraceae. Cotton thistle.

Var. costatum. A composite which may prove as attractive for borders as the Arabian species, *Onopordon arabicum*. This variety, occurring in the sandy clearings in the forests of Mamora,

62660 to 62674—Continued.

at Kenitra, and between Sale and Tifet, Morocco, was presented by its discoverer, Professor Maire, of the University of Algiers, Mustapha.

62671. PAEONIA CORIACEA Boiss. Ranunculaceae. **Peony.**

A Spanish peony, allied to *Paecnia albiflora*, with nearly unbranched, reddish stems and leathery leaves. The flowers are bright crimson.

62672. PILOCARPUS PENNATIFOLIUS Lem. Rutaceae.

A handsome Brazilian tree with beautiful foliage and striking pendent spikes of pinkish red flowers. It is interesting in that the terminal flowers in the spike open before the basal ones, quite the opposite to the habit of ordinary flower spikes in which the first-formed flower buds on the spike open first. The leaves of this poisonous tree furnish the pilocarpin of the pharmacopœia.

62673. SCHINUS TEREBINTHIFOLIUS Raddi. Anacardiaceae. **Brazilian pepper tree.**

A particularly handsome tree growing beside the road to Ain Taiya, Algeria. I think it is quite possible that this form, grown as a shade tree in Algiers, is different from the bushlike form which is being used so extensively in southern Florida.

62674. STYRAX OFFICINALE L. Styracaceae. **Snowbell.**

A small, handsome tree, suitable for parks, with attractive white flowers, presented by Professor Maire, of the University of Algiers.

62675. ARECASTRUM sp. **Phoenicaceae.**
Palm.

From South America. Seeds collected by Wilson Popenoe, agricultural explorer, Bureau of Plant Industry. Received February 28, 1925.

No. 714. Cumbi. A common ornamental palm in towns and villages of the Ecuadorian highlands. It has a slender trunk, attaining to 25 or 30 feet in height, surmounted by a crown of pinnate, strongly arcuate, grayish green leaves. As it grows at altitudes of 8,000 to 9,000 feet in Ecuador, I would expect it to be sufficiently frost resistant for cultivation in parts of California and Florida. So far as I have learned, it has little economic value; the leaves may be used for thatch, but the oval, dry fruits, each about 2 inches long, are not used for food. As a new ornamental palm for the warmest portions of the United States it is of more than passing interest. (*Popenoe*.)

62676. AXONOPUS SCOPARIUS (Fluegge) Hitchc. Poaceae. **Grass.**

From Guayaquil, Ecuador. Plants presented by J. A. Cleveland, through Wilson Popenoe, agricultural explorer, Bureau of Plant Industry. Received February 28, 1925.

No. 713. When Dr. A. S. Hitchcock was in Ecuador last year he secured seeds of a promising forage grass from the Hacienda La Teresita, near Bucay. His notes on this plant, which was called *Paspalum scoparium* at that time, are given under S. P. I. No. 58966. The seeds failed to grow, and at Doctor Hitchcock's request I have secured from La Teresita, through Mr. Cleveland, the owner of the hacienda, live plants of this grass, which will be tested in Florida and other subtropical regions. (*Popenoe*.)

62677 to 62691.

From South America. Collected by Wilson Popenoe, agricultural explorer, Bureau of Plant Industry. Received February 28, 1925. Notes by Doctor Popenoe.

62677 and 62678. DELOSTOMA ROSEUM (Karst. and Tr.) Schum. Bignoniaceae.

Ambato, Ecuador. *Cholán*. Seeds of a small tree, native to certain regions of Ecuador, and occasionally cultivated in parks and gardens. It is rather susceptible to frost, but will probably withstand the winters of southern Florida. Its lilac flowers resemble those of the catalpa in form and size.

62677. No. 704. A variety with pale-lilac flowers.

62678. No. 705. A variety with deep-lilac flowers.

62679. FRAGARIA CHILOENSIS (L.) Duchesne. Rosaceae. **Chiloe strawberry.**

No. 707. Ambato, Ecuador. Plants of the *frutilla*, or Chilean strawberry, which is cultivated extensively at Guachi, near Ambato. The character of this fruit and its culture in Ecuador is described under S. P. I. No. 52731, and more fully in the Journal of Heredity for December, 1921.

62680. GOSSYPIUM sp. Malvaceae. **Cotton.**

No. 693. Chota Valley, Ecuador. In recent years the cultivation of cotton has assumed considerable importance in northern Ecuador. The Chota Valley in particular has proved well suited to this crop. Though a few introduced varieties have been tested, the only one successfully grown at present is the so-called native cotton, presumably the same type as that cultivated in Peru. These seeds were obtained from the Hacienda San Rafael.

62681. LYCOPERSICON ESCULENTUM Mill. Solanaceae. **Tomato.**

Seeds presented by Prof. Julio Gaudron, Jardín Botánico de la Escuela Nacional de Agricultura, Lima, Peru. This is a primitive form of the tomato which grows wild in the vicinity of Lima. The plant is of vigorous habit and produces an abundance of tiny tomatoes, each about the size of a Concord grape.

62682. ONOSERIS HYSSOPIFOLIA H. B. K. Asteraceae.

No. 698. Chota Valley, Ecuador. While traveling in the high Andes of Ecuador three years ago my fancy was taken by an attractive daisylike flower which I often saw along the trail. I was unable at that time to obtain many seeds, and what few I secured failed to grow when planted at Washington. On this second visit, however, I found an abundance of seeds available.

I have seen this plant at elevations between 5,000 and 10,000 feet. It grows in the rockiest, most forbidding places, usually where few other plants are able to obtain a foothold. Apparently it requires very little moisture. When fully developed it forms a low, spreading clump 1 or 2 feet in breadth, with grayish foliage, reaching not more than 6 inches above the ground. The flowers are borne on slender stems 4 to 8 inches above the foliage; they are an inch and a half in diameter and vary from pale lilac-pink to deep rose-pink. Some of the

62677 to 62691—Continued.

shades are extremely pretty, others a bit pallid. It should be easy through selection to develop a strain producing nothing but bright-pink flowers. The plant seems to be a perennial in this climate, but I suspect it will stand no frost.

62683 to 62687. *PERSEA AMERICANA* Mill. (*P. gratissima* Gaertn. f.). Lauraceae. Avocado.

The avocados of the Chota Valley are an interesting group. The majority of them belong to the Mexican race, but quite a few are obviously of the lowland type which we call West Indian. Some of the trees seem almost intermediate in character between these two races, which leads to the belief that they may be of hybrid origin. The Mexican varieties of the Chota Valley are a superior lot, perhaps the finest which we have found during our explorations in tropical America.

The five varieties originally introduced in 1921, plus the five now obtained, give us a collection comprising some of the best forms grown in the Chota Valley.

62683. No. 688. Hacienda Carpuela. Avocado No. 1. This avocado is an oblong, light-green fruit, weighing about 12 ounces. It is probably not a Mexican; it may be a cross between this race and the West Indian; the characteristics of the fruit suggest this possibility. Since I was unable to see a mature specimen, I can not report upon the quality of the fruit, though I am assured by the owner of the tree that it is excellent. The seed cavity is large and the seed loose within. The foliage has no odor of anise when crushed.

62684. No. 689. Hacienda Carpuela. Avocado No. 2. This is a pear-shaped fruit with a distinct neck, pointed where it joins the stem. The weight is about 12 ounces; the color dull yellowish green. Since the leaves are distinctly anise scented, it seems probable that the variety belongs to the Mexican race. The seed is moderately large and tight in the cavity. I was unable to examine a mature specimen, hence I can not vouch for the quality of the flesh.

62685. No. 690. Hacienda Challhua. Avocado No. 3. This avocado is said by the owner of the hacienda to produce fruits of a large size and excellent quality, but I was unable to see mature specimens and am not able to vouch for this personally. The foliage is not anise scented, hence I suspect the variety to be of the West Indian race, though it may be a cross between this and the Mexican. The fruit is pyriform, rather slender, broadly necked; maroon-purple; the weight uncertain, perhaps 1 pound in well-developed specimens. The skin is rather thick, but not so much so as in many varieties of the West Indian race. The flesh is a rich yellow; the seed is large and tight in the cavity.

62686. No. 691. The Huerta de los Dolores. Avocado No. 4. This and the following variety come from an orchard which has an interesting history. Over a hundred years ago the owner of the grove died, leaving the property to the Virgin of Dolores. The Bishop of Ibarra was named administrator.

62677 to 62691—Continued.

Some of the trees on this property are extremely old; I suspect, in fact, that they may have been planted by the Spanish monks who originally owned the haciendas of the Chota Valley. It is not unlikely that certain of these trees date from the eighteenth century. The largest have trunks 8 to 10 feet thick.

The avocado represented by this number is undoubtedly of the Mexican race. The fruit is broadly pyriform; green skinned, and weighs about 8 ounces; the seed is of medium size and tight in the cavity. The flesh is rich yellow and of excellent quality.

62687. No. 692. The Huerta de los Dolores. Avocado No. 5. This avocado, having the same interesting history as No. 691 [S. P. I. No. 62686], is not a true Mexican, since the leaves are not strongly anise scented. Most probably it is a cross between this race and the West Indian. The fruit is oblong-ovoid, about 12 ounces in weight, and maroon-purple; the seed is rather large and loose in the cavity; the skin is thick for a Mexican, thin for a West Indian; the flesh is creamy yellow and is said to be of excellent flavor.

62688. *PRUNUS SEROTINA* Ehrh. Amygdalaceae. Capulin.

No. 706. Ambato, Ecuador. Seeds of a large-fruited capulin obtained in the market. For a description of the capulin, see S. P. I. No. 52597 and the Journal of Heredity for February, 1922.

62689 and 62690. *RUBUS GLAUCUS* Benth. Rosaceae. Andes raspberry.

62689. No. 699. Ibarra, Ecuador. Plants of a rare albino, or white-fruited, form of the Andes raspberry. It was discovered by José Félix Tamayo and brought by him to the Hacienda la Victoria in Ibarra, where it is now growing vigorously.

The typical form of the Andes raspberry has maroon-colored fruits. They will be found described in the inventories under S. P. I. Nos. 55788 and 62014, and in the Journal of Heredity, vol. 12, No. 9, November, 1921. According to Señor Tamayo, the albino form yields fruits of excellent quality, differing from those of the typical *Rubus glaucus* only in color.

62690. No. 708. Ambato, Ecuador. Seeds of the typical form of this excellent berry obtained from fruits purchased in the market.

For previous introduction, see S. P. I. No. 52717.

62691. *SOLANUM MEDIANIS* Bitter.

No. 681. Lima, Peru. Tubers presented by Prof. Julio Gaudron, Jardín Botánico de la Escuela Nacional de Agricultura. This is a potato-like species brought into the Botanic Garden of the School of Agriculture some years ago by Nicolas Esposto. It occurs wild on the coast of Peru, and Professor Gaudron believes it may prove of interest in connection with potato-breeding experiments, since it is exceedingly productive of tubers which are smaller than potatoes, being commonly 1 or 2 inches in length and not more than an inch in diameter. They have white, crisp flesh of very firm texture, but are not considered good to eat.

62692. DIOSPYROS LOTUS L. Diospyraceae. Persimmon.

From Taelingyeau, Chibli, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 24, 1925.

No. 837. November 28, 1924. *Hei Tsao* (black date). (*Dorsett.*)

Introduced for trial as stock for cultivated varieties of oriental persimmons.

62693 to 62699.

From South America. Collected by Wilson Popenoe, agricultural explorer, Bureau of Plant Industry. Received February 28, 1925. Notes by Doctor Popenoe.

62693 to 62696. SOLANUM TUBEROSUM L. Solanaceae. Potato.

62693 and 62694. Tubers purchased in the market at Lima, Peru, said to have been grown in the vicinity of Huancayo, high up in the Andes, east of Lima.

If the yellow-fleshed potatoes of the Andes can be successfully grown in the United States, I believe they will prove a distinct addition to our list of foodstuffs. The eyes are deep, however, and the tubers are not as large as those of standard varieties now grown in the United States. In quality they excel all other potatoes. This is not alone my opinion but that of numerous other Americans who have eaten them in the Andean countries.

62693. No. 679. These tubers are irregularly round, 2 to 3 inches in diameter; dull magenta-red externally, with very deep eyes. The flesh is rich yellow, mealy when cut, and of a rich nutty flavor quite unknown in North American potatoes.

62694. No. 680. The tubers of the variety are small, free from objectionably small eyes, and the flesh is even deeper yellow than that of No. 679 [S. P. I. No. 62693].

62695 and 62696. When in Ecuador in 1921 I secured and forwarded to the United States tubers of the Chaucha potato from the Province of Carchi in northern Ecuador. The potato specialists of the Bureau of Plant Industry, who are working with this crop, have found the Chaucha type distinct from other potatoes in that the tubers do not require to be stored before planting, but can be dug and replanted the same day. This characteristic gives the Chaucha type a certain importance in Ecuador, because it enables the farmer to maintain a constant succession of crops, and in the United States because plant breeders are desirous of having all possible new characters for use in breeding.

For previous introduction, see S. P. I. No. 53216.

62695. No. 694. The tubers listed under this number include several varieties. They were presented by J. F. Tamayo, of Ibarra, Ecuador.

62696. No. 695. These tubers are from the vicinity of Mira, Province of Carchi, Ecuador, and were presented by Jorge Benites. This

62693 to 62699—Continued.

variety differs from most other chauchas in having tubers which are long and slender, suggesting small sweet potatoes.

62697. SOLANUM sp.

No. 682. Tubers presented by Prof. Julio Gaudron, Jardín Botánico de la Escuela Nacional de Agricultura, Lima, Peru. Though this plant is grown at the Botanic Garden under the name *Solanum maglia*, Dr. W. E. Safford believes it is not this species. Its tubers, which are more or less round in form and 1 or 2 inches in diameter, are of no value as food. The plant, however, is of interest to breeders for hybridizing with the true potato.

62698. VALLEA STIPULARIS L. f. Elaeocarpaceae.

No. 709. Plants presented by Prof. Augusto Martinez, Ambato, Ecuador. This handsome Andean tree, native to high, cool regions in Ecuador and Colombia, seems worthy of cultivation in other regions. It grows to a height of 20 or 25 feet, forming a broad, compact crown of attractive foliage. The flowers, which are borne in clusters about 2 inches long, are half an inch in diameter and deep pink. I first saw this plant in Colombia three years ago and sent seeds of it from that country. I do not believe, however, that it has yet been established in the United States, and I therefore secured this lot of plants from the garden of Professor Martinez, where there is one old specimen, brought from the mountains many years ago. The tree produces abundant suckers, by which means it is easily propagated.

For previous introduction, see S. P. I. No. 51800.

62699. ZEPHYRANTHES sp. Amaryllidaceae.

No. 683. Bulbs presented by Julio Gaudron, Jardín Botánico de la Escuela Nacional de Agricultura, Lima, Peru. While walking through the test orchard of the School of Agriculture I noticed a number of bright-yellow flowers peeping up here and there through the grass. Professor Gaudron informed me that these belonged to two species, *Pyrolirion flavum* and *P. aureum*, and he offered to have some bulbs collected for trial in the United States. The lot represented by this number was supplied in consequence of this promise.

The flower strongly resembles in form and size the common *Zephyranthes* of the United States (*Z. atamasco*), but it varies in color from bright yellow to golden yellow.

62700 to 62744.

From Elstree, Herts, England. Plants presented by Vicary Gibbs, Aldenham House Gardens. Received March 3, 1925. Notes by Edwin Beckett, superintendent, Aldenham House Gardens.

62700. ASTER sp. Asteraceae.

Var. *Mrs. Pierpont Morgan*. A new aster which we raised last year.

62701. BERBERIS AQUIFOLIUM Pursh. Berberidaceae. Oregon hollygrape.

Var. *grandifolium*. A new introduction with strikingly handsome foliage. Raised at Aldenham.

62702. BUDDLEIA DAVIDII Franch. Loganiaceae. Butterfly bush.

62700 to 62744—Continued.

Var. *Nanhoensis*. A Chinese variety of spreading habit and free blooming, bearing bright rosy mauve flowers.

62703. *CARYOPTERIS TANGUTICA* Maxim.
Verbenaceae. Bluebeard.

Farrer No. 350. A deciduous semi-shrub from China, superior to *Caryopteris mastacanthus*, bearing profusely, bright violet-blue flowers.

62704. *CEANOTHUS HYBRIDUS* Hort. Rhamnaceae.

Var. *Marie Simon*. A lovely lilac-pink hybrid.

62705. *CLEMATIS MONTANA WILSONII* Sprague. Ranunculaceae.

A hardy climbing clematis, native to western China, which often attains a height of 20 feet or more. The very abundant, sweet-scented flowers, about an inch long, are white with occasionally yellowish or rosy tinges, and are produced in June and July with generally a second flowering in the autumn.

62706. *CHAMAECYPARIS LAWSONIANA* (Murray) Parl. Pinaceae.
Lawson cypress.

Var. *Fletcherii*. This is a very distinct and dainty variety with glaucous foliage.

62707. *DEUTZIA TAIWANENSIS* (Maxim.) C. Schneid. Hydrangeaceae.

A new species from the mountains of Formosa, with white or pinkish white flowers, belonging to the same group as *Deutzia scabra*.

62708. *DEUTZIA* sp. Hydrangeaceae.

Farrer No. 109. A striking and distinct medium-growing shrub with white, wavy-edged flowers; introduced from China by the late Reginald Farrer.

62709 to 62712. *DIERVILLA FLORIBUNDA* Sieb. and Zucc. Caprifoliaceae.
Crimson weigela.

62709. *Aldenham Glow*. A choice deep-scarlet flowered form resembling "Eva Rathke."

62710. *Avante Garde*. An early flowering, rich pink variety.

62711. *Emile Galle*. A very fine, dark-pink form.

62712. *Gloire de Bosquets*. The corolla without is carmine and purplish pink within; very effective.

62713. *DIERVILLA JAPONICA SINICA* Rehder. Caprifoliaceae. Weigela.

A Chinese variety with campanulate, pale-pink flowers. The shrub is 6 feet or less high, with slender-stemmed, oval leaves hairy beneath; the flowers are in small, terminal clusters.

62714. *ESCALLONIA* sp. Escalloniaceae.

C. F. Ball. A beautiful pink hybrid raised by the late Mr. Ball at the Botanic Gardens, Glasnevin.

62715. *ESCALLONIA* sp. Escalloniaceae.

Var. *rubra nana*. This is a charming dwarf form of the red-flowered species and is suitable for rockeries.

62716 to 62718. *EUONYMUS JAPONICUS* L. f. Celastraceae.

62716. *President Gauthier*. A strikingly variegated variety of the trailing evergreen, "spindle wood."

62700 to 62744—Continued.

62717. An evergreen with variegated foliage and dwarf compact habit, which is a real gem.

62718. A tiny-leaved, very distinct dwarf form.

62719 and 62720. *EUONYMUS RADICANS* Siebold. Celastraceae.

62719. *Little Gem*. A pretty, white-variegated form of dwarf habit.

62720. A distinct, rather stiff-habited variety.

62721. *EUONYMUS EUROPAEUS* L. Celastraceae. Spindle tree.

A most distinct form of *Euonymus europaeus*, with large foliage and handsome pink fruit.

62722. *EUONYMUS* sp. Celastraceae.

Vilmorin No. 5521. A handsome, free-flowering, tall, pyramidal form of the *Euonymus japonicus* group. A really excellent evergreen introduction from China.

62723. *ILEX FARGESII* Franch. Aquifoliaceae. Holly.

A Chinese holly which is described (Journal de Botanique, vol. 12, p. 255) as a shrub with black bark and dull-green, narrowly oblong leaves about 5 inches long, indistinctly toothed. The globose, red berries are in small axillary clusters.

62724. *LAVANDULA VERA* DC. Menthaceae. Lavender.

Munstead Blue. This form is of bushy habit and flowers early, carrying its bright-blue spikes most freely.

62725. *LAUROCERASUS OFFICINALIS* Roemer (*Prunus laurocerasus* L.). Amygdalaceae. Cherry laurel.

A form with curiously curled leaves.

62726. *LAUROCERASUS LUSITANICA* (L.) Roemer (*Prunus lusitanica* L.). Amygdalaceae. Portugal laurel.

An interesting variegated form of the Portugal laurel which first occurred at Aldenham.

62727. *LAUROCERASUS OFFICINALIS* Roemer (*Prunus laurocerasus* L.). Amygdalaceae. Cherry laurel.

This makes a very handsome low-spreading evergreen shrub with narrow, flat-growing foliage.

62728 and 62729. *LAVANDULA VERA* DC. Menthaceae. Lavender.

62728. *Twickel Purple*. A form having fine, bold foliage with good heads of deep-purple flowers.

62729. *Nana*; *Glasnevin* variety. A quite distinct form.

62730. *LONICERA PILEATA* Oliver. Caprifoliaceae. Privet honeysuckle.

Forma *yunnanensis*. According to Curtis's Botanical Magazine (pl. 8060) this form differs from the species only in the very small, thick, roundish leaves. *Lonicera pileata* is a much-branched, low, evergreen shrub from central and western China, about 1 foot high, with slender branches, oblong-lanceolate, dark-green leaves, half an inch to 1 inch long, and pale-yellow flowers in almost sessile pairs.

62700 to 62744—Continued.

62731 to 62733. *MALUS SYLVESTRIS* Mill.
(*Pyrus malus* L.). Malaceae. Apple.

62731. *Dartmouth Crab* (grafted). The flowers and large, deep reddish purple fruits make this a very attractive tree. The fruits are most suitable for making preserves.

62732. *Eleyi* (grafted). This is a new and very beautiful crab apple raised by Charles Eley and is a lovely flowering and fruiting form.

62733. *Gibbs' Golden Gage* (grafted). The tree bears many medium-sized waxy, almost translucent yellow fruits which give a very attractive appearance.

62734. *POPULUS RASUMOWSKIANA* Schroed.
Solanaceae. Poplar.

A supposed hybrid between *Populus nigra* and *P. suaveolens* which, according to the Gardeners' Chronicle (ser. 3, vol. 18, p. 108), is a large tree with cylindrical shoots and roundish leaves; the latter are smaller than those of *P. petrowskiana*, which this hybrid resembles very closely.

62735. *POPULUS SZECHUANICA* C. Schneid.
Salicaceae. Szechwan poplar.

This large poplar is said to be a common tree in the forests of Szechwan, China. In habit and general appearance it resembles *Populus suaveolens*, but the branches are more massive and the branchlets are stouter. It has proved hardy at the Arnold Arboretum, Jamaica Plain, Mass., and also at Rochester, N. Y. The foliage is colored red and bronze in early spring.

62736. *SKIMMIA FORTUNEI* RUBELLA
(Carr.) Rehder. Rutaceae.

This is similar to *Skimmia japonica*, but is more dwarfed in habit and, furthermore, native to China. The dark-green leaves are narrow and acuminate, the white flowers are in oblong panicles, and the fruits are dull crimson. The variety differs from the species in having reddish peduncles, pedicels, and buds.

62737. *SKIMMIA JAPONICA* VEITCHII
(Carr.) Rehder. Rutaceae.

A densely branched low shrub, native to Japan, with obovate yellowish green leaves crowded at the ends of the branchlets, yellowish white flowers, and bright-scarlet berries about a third of an inch in diameter. This is probably not hardy north of Washington, D. C.

62738. *STRANVAESIA DAVIDIANA* Decaisne.
Malaceae.

This may be trained as a small, standard tree, otherwise of bush form. The foliage is evergreen, and the terminal corymbs of white flowers are soon followed by the handsome bunches of scarlet fruits.

For previous introduction, see S. P. I. No. 56695.

62739. *VIBURNUM DAVIDI* Franch. Caprifoliaceae.

This Chinese viburnum is one of the most distinct and most remarkable of the genus. It is a low plant, entirely hardy, with large persistent, shining leaves resembling those of a rhododendron, the

62700 to 62744—Continued.

shoots of the year terminating in an umbel of white flowers, appearing in April. These flowers are succeeded by steel-blue fruits, ripening in autumn. It attains a height of from 25 to 50 centimeters and flourishes in shady peaty soil.

62740. *VIBURNUM FOETIDUM RECTANGULATUM* (Graebn.) Rehder. Caprifoliaceae.

This western Chinese variety is described by Alfred Rehder, of the Arnold Arboretum, as a spreading shrub ultimately about 12 feet high, with oblong or narrower leaves, white flowers in cymes 2 to 4 inches wide, and scarlet ovoid berries.

62741. *VIBURNUM FRAGRANS* Bunge. Caprifoliaceae.

A rare species introduced from China by Farrer. This will undoubtedly prove one of our very best early-flowering shrubs (flowering during March and April) of high merit like *Viburnum carlesii*. The flowers are deliciously fragrant and are white with a rose tint.

62742. *VIBURNUM HARRYANUM* Rehder. Caprifoliaceae.

An evergreen bearing quaint, small, round leaves and long, black fruits; very distinct. Native to China.

62743. *VIBURNUM HENRYI* Hemsl. Caprifoliaceae.

An evergreen, a most distinct species, with long, narrow leaves and white flowers in pyramidal panicles followed by beautiful fruits, first red and then turning black.

62744. *VIBURNUM PROPINQUUM* Hemsl. Caprifoliaceae.

A distinct evergreen shrub from China, bearing greenish white flowers in good-sized cymes which are followed by bluish black fruits.

62745. *HELIANTHUS TUBEROSUS* L. Asteraceae. Jerusalem artichoke.

From Toronto, Canada. Tubers purchased from George Keith & Sons. Received March 5, 1925.

Canadian-grown Jerusalem artichokes.

62746 to 62749. *HELIANTHUS TUBEROSUS* L. Asteraceae. Jerusalem artichoke.

From Paris, France. Tubers purchased from Vilmorin-Andrieux & Co. Received March 5, 1925. French-grown tubers.

62746. A spindle-shaped form.

62747. An ordinary, white form.

62748. A pink form.

62749. An improved, white form.

62750. *OLEA EUROPAEA* L. Oleaceae. Olive.

From Pistoia, Florence, Italy. Plants purchased from Giannino Giannini. Received March 7, 1925.

Grossa di Spagna. Very large olives, especially suited for preserving and drying. (1925 *Catalog of Giardino Allegra, Catania, Sicily*.)

Introduced for olive breeders.

62751 to 62753.

From Chihli, China. Scions collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 6, 1925. Notes by Mr. Dorsett.

January 15, 1925. From the Fa Hua Ssu temple, Silver Mountain, near Haitzu, at an altitude of 1,200 feet.

62751. *AMYGDALUS PERSICA* PLATYCARPA (Decaisne) Ricker. Amygdalaceae.
Flat peach.

No. 1869. The fruit, which ripens in early August, is creamy white with a pink blush and is about 2 inches in diameter.

62752. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae.
Peach.

No. 1870. A large Chinese freestone peach, about 3 to 3½ inches in diameter, which ripens in August. The fruits are white with a pink blush.

62753. *PRUNUS* sp. Amygdalaceae. Plum.

No. 1868. The fruits ripen in July and are about 1 to 1½ inches in diameter. The skin and flesh are both yellow.

62754. *XANTHOSOMA CARACU* Koch and Bouche. Araceae. Yautia.

From San Juan, Porto Rico. Cormels presented by O. W. Barrett, agricultural adviser, Department of Agriculture and Labor. Received March 6, 1925.

Rollia. This is the best variety native to Porto Rico. It may be grown on a variety of soils. The yield is 2 to 4 pounds per hill. The tubers are of large size, white, mealy, and smooth. The rhizome is also eaten. It occurs in Belize, Trinidad, and Cuba. A very similar form produces larger (?) tubers in Venezuela. (Barrett.)

62755 to 62761.

From Orleans, France. Plants presented by Leon Chenault, through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 9, 1925.

62755. *BERBERIS RUGIDICANS* Hort. Berberidaceae. Barberry.

A striking, new species having a peculiarly handsome red foliage. (Fairchild.)

62756. × *BERBERIS STENOPHYLLA* Lindl. Berberidaceae. Barberry.

Var. *Irwinii*. A plant of compact habit; excellent for the rock garden. (Chenault.)

A hybrid between *Berberis darwini* and *B. stenophylla*. (Fairchild.)

62757. *COTONEASTER SALICIFOLIA* FLOCCOSA Rehd. and Wils. Malaceae.

A graceful shrub, up to 13 feet high, which bears dense corymbs of white flowers and light-red, roundish fruits. Native to western China at altitudes of 7,500 to 9,800 feet.

For previous introduction, see S. P. I. No. 60649.

62758 to 62760. *PAEONIA* spp. Ranunculaceae.

62755 to 62761—Continued.

62758. *PAEONIA LUTEA* Delavay.
Golden peony.

A shrubby Chinese peony, with a short, woody stem 1 or 2 feet high and deep-green, leathery, 3-parted leaves, white beneath, and about a foot in length. The golden yellow, single or slightly double flowers are 2½ inches across.

For previous introduction, see S. P. I. No. 59425.

62759 and 62760. *PAEONIA LUTEA* × ?
Peony.

62759. *Madame Louis Henry*. A hybrid of *Paeonia lutea* bearing large, semidouble flowers which are a brilliant deep carmine, shaded with coppery yellow, sometimes bronzed buff yellow; the numerous stamens are a unique orange yellow. (Chenault.)

62760. *Souvenir du Professeur Maxime Cornu*, a hybrid of *Paeonia lutea*. The very large, fragrant full flowers of perfect form are bright yellow, the edges of the petals being carmine pink. (Chenault.)

62761. *PRUNUS CERASIFERA* Ehrh. Amygdalaceae.

Var. *Blirieana flore-pleno*. A variety bearing large, double, pink flowers, of a beautiful shape. (Chenault.)

62762. *PYRUS* sp. Malaceae. Pear.

From Chihli, China. Scions collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 31, 1925.

No. 2116. Chiuchou. February 13, 1925. *Ya Li* (duck pear). This pear is light yellow, about 3 inches in diameter, and ripens about the middle of September. (Dorsett.)

For previous introduction, see S. P. I. No. 62262.

62763. *VIBURNUM DAVIDI* Franch. Caprifoliaceae.

From Orleans, France. Seedlings presented by Leon Chenault, through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 9, 1925.

This hardy Chinese viburnum, one of the most distinct of the genus, grows 10 to 30 inches high and flourishes in the shade on peaty soil. It has large, persistent, shining green leaves resembling those of a rhododendron. The current year's shoots terminate in umbels of white flowers, which appear in April. These flowers are succeeded by steel-blue fruits which ripen during the autumn.

62764. *CASTANEA* sp. Fagaceae.
Chestnut.

From Chihli, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 10, 1925.

No. 1871. Fa Hua Ssu temple, Silver Mountain, near Haitzu. January 15, 1925. These chestnuts are said to ripen later than those sent in under Nos. 790 and 791 [S. P. I. Nos. 61834 and 61835.] (Dorsett.)

62765 to 62769.

From Kew, England. Plants presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received March 9, 1925.

62765. *AESCULUS CHINENSIS* Bunge. Aesculaceae.

A hardy Chinese horse-chestnut, sometimes 60 feet high, with finely toothed, short-stalked leaflets and elongated cylindric spikes of small, white flowers. It has proved hardy at the Arnold Arboretum, Jamaica Plain, Mass.

62766. *GLEDITSIA TRIACANTHOS* L. Caesalpiniaceae. Honey locust.

Var. *fastigiata*. A fastigate variety of the honey locust.

62767. *PRUNUS ZABELIANA* Hort. Amygdalaceae.62768. *ROBINIA PSEUDACACIA* L. Fabaceae. Common locust.

Var. *fastigiata*. A fastigate variety of the black locust.

62769. *TILIA INTONSA* Wilson. Tiliaceae. Linden.

An Asiatic linden, closely related to *Tilia chinensis* and described (Plantae Wilsonianae, vol. 2, p. 365) as a large tree, up to 75 feet in height, which grows commonly in the forests of western Szechwan, China. The bark is brownish gray, and the broadly oval, membranous leaves, about 5 inches long, are light yellowish green above, with ashy green lower surfaces.

62770 and 62771. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Danzig, Danzig Free State. Seeds purchased from John Hussey, Schwedisch-Danziger Saathandels Gesellschaft, "Sativa." Received March 2, 1925.

Locally grown Polish strains.

62770. A. 62771. B.

62772 to 62774. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

From Kaying, via Swatow, China. Seeds presented by Miss Louise Campbell. Received March 6, 1925.

62772. Big yellow bean.

62773. Small black bean.

62774. Small yellow bean.

62775 and 62776. *HELIANTHUS TUBEROSUS* L. Asteraceae.

Jerusalem artichoke.

From Reading, England. Tubers purchased from Sutton & Sons. Received March 12, 1925.

English-grown tubers.

62775. Purple. 62776. White.

62777 to 62780. *FICUS CARICA* L. Moraceae. Fig.

From Granada, Spain. Cuttings presented by Señor Juan Leyva, through Austin C. Brady, American consul, Malaga. Received March 13, 1925. Notes by Ira J. Condit, of the University of California.

62777. *Brebal*. A black fig very similar to our Mission.

62777 to 62780—Continued.

62778. *Castellana*. A black fig similar to *Brebal* but having a sweeter, finer pulp which is of better quality.

62779. *Isabelle*. This is a common fig at Granada. It is used there for fresh-fruit purposes and in the Turon district for drying. The trees are very productive, producing thin-skinned figs which are borne on stems of medium length.

62780. *Partridge Eye*. A common variety around Turon. The trees are vigorous, producing dark figs which turn to straw yellow; good for drying.

62781. *SORBUS HYBRIDA* L. (*Pyrus pinnatifida* Ehrh.). Malaceae.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, regius keeper, Royal Botanic Garden. Received March 6, 1925.

It is generally believed that this tree, which is found wild in central and northern Europe, is a natural hybrid between *Sorbus aucuparia* and *S. intermedia*. It becomes 40 feet or more in height, with ascending branches and handsome, narrowly oval leaves. The white flowers, half an inch wide, are produced in May in corymbs 3 to 5 inches across, and the roundish, bright-red fruits are nearly half an inch in length.

62782 to 62788. *MUSA TEXTILIS* Nee. Musaceae. Abacá.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received March 13, 1925.

A collection of Philippine abacá varieties.

62782. *Bisaya*.62783. *Inusa*.62784. *Itom* C. A. 10392.62785. *Libuton* C. A. 109.62786. *Lono*.62787. *Lono sucker*.62788. *Sinanta Cruz*.

62789 and 62790.

From Oaxaca de Juarez, Oaxaca, Mexico. Seeds presented by Prof. C. Conzatti. Received February 21, 1925.

From the canyon of Tomellin, about 90 miles north of this city. (Conzatti.)

62789. *GOSSYPIUM* sp. Malvaceae. Cotton.62790. *SELERIA GOSSYPIOIDES* Ulbrich. Malvaceae.

A shrub, native to Oaxaca, with heart-shaped, 3-lobed leaves and purplish flowers.

62791. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Mayaguez, P. R. Cuttings presented by the agricultural experiment station, through E. W. Brades, Bureau of Plant Industry. Received March 14, 1925.

Java Unknown. This variety was located in a field of sugar cane near Mayaguez, P. R., in 1919. It was apparently distributed by the Federal experiment station there, but the label was lost, and it has since been known in literature by the above

name. It is a slender variety, very similar to Uba, and is immune to mosaic of sugar cane. It is rather slow in maturing, very high in fiber, and, on account of the clinging leaf sheaths, is difficult to harvest. Yields in the presence of mosaic disease are, however, very high. (*Brandes.*)

62792 and 62793. HELIANTHUS spp. Asteraceae.

From Milan, Italy. Tubers purchased from Fratelli Ingegnoli. Received March 14, 1925. Notes by Fratelli Ingegnoli.

Italian strains of native American sunflowers used as food in Italy.

62792. HELIANTHUS DECAPETALUS L. Thin-leaf sunflower.

Produces tender, sweet-flavored roots which are eaten fried, boiled, etc.

62793. HELIANTHUS SCABERRIMUS Ell. Prairie sunflower.

The small tubers, when fried, resemble the artichoke in flavor.

62794 to 62796.

From China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 2, 1925. Notes by Mr. Dorsett.

62794. BRASSICA sp. Brassicaceae.

No. 1898. January 19, 1925. Seeds of a small, oil vegetable, purchased from Nau Yu Shing, of Naubsimeu. The plant after being chopped up is fried with meat.

62795. RAPHANUS SATIVUS L. Brassicaceae. Radish.

No. 1897. January 19, 1925. Seeds of a large radish, purchased from Nau Yu Shing, Naubsimeu. This radish, green outside and light green within, is used as a rule only for pickling.

62796. ZEPHYRANTHES CARINATA Herbert. Amaryllidaceae.

No. 1914. January 27, 1925. Bulbs secured from Mr. Li, of the village of Kechiatsu, near Feingtai, Chihli. The Chinese call these *tsang pu lien* (grass lily).

62797. ALLIUM CEPA L. Liliaceae. Onion.

From Peking, Chihli, China. Bulbs collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 6, 1925.

No. 1873. January 15, 1925. Secured in the Peking market, where they are known as "Small foreign onion." (*Dorsett.*)

62798. VIOLA ODORATA L. Violaceae. Violet.

From Killaloe, County Clare, Ireland. Plants purchased from Mrs. Stanistreet. Received February 7, 1925.

Rosea Delicatissima. A new French violet which is delicate rose and white and very hardy. It flowers abundantly in the spring and is very pretty and uncommon. (*Stanistreet.*)

62799 and 62800.

From Cape Town, Union of South Africa. Seeds presented by W. S. Duke & Co. Received March 11, 1925.

62799 and 62800—Continued.

62799. ANTHOLYZA REVOLUTA Burm. f. Iridaceae.

A gladiator-stemmed plant, closely allied to gladiolus. The bright-red flowers are produced in a few-flowered, very lax spike. Native to southwestern South Africa.

62800. ORNITHOGALUM THYRSOIDES Jacq. Liliaceae.

Flowers with a dark-brown central blotch. (*Duke.*)

In South Africa, where this bulbous ornamental is native, it is known as one of the "chinkeriches." The globose bulb is about 2 inches thick, and the five or six very narrow leaves are 6 to 12 inches in length. The flowers, sometimes an inch long under cultivation, are borne in rather dense racemes on a scape about a foot high. In a dried condition these make excellent "everlasting" flowers.

62801. PYBUS sp. Malaceae. Pear.

From Simla Hills, Punjab, India. Seeds presented by S. E. Stokes. Received March 11, 1925.

This Himalayan wild pear is called "shegal," or "kanth," by the natives. The fruit is bronze colored, perfectly round, and the size of a large cherry. The tree grows extensively in the mountains at altitudes of 4,000 to 8,000 feet. (*Stokes.*)

For previous introduction, see S. P. I. No. 58512.

62802. CYMBOPOGON MARTINI (Roxb.) Stapf. (*Andropogon murtini* Roxb.). Poaceae. Rusa-oil grass.

From Dehra Dun, United Provinces, India. Seeds presented by R. N. Parker, forest botanist. Received March 16, 1925.

A stout, perennial grass, native to northern India, which grows to a height of about 6 feet and has long, very smooth leaves of a rich green color and delicate texture. The perfume known commercially as Rusa oil is obtained from this plant, and this introduction has been made for specialists experimenting with perfume-yielding plants.

62803. JASMINUM sp. Oleaceae. Jasmine.

From Grasse, France. Plants presented by Bruno Court, through Warren E. Burns, New York City, N. Y. Received March 17, 1925.

To be tested as a source of perfume.

62804. HELIANTHUS TUBEROSUS L. Asteraceae. Jerusalem artichoke.

From Göteborg, Sweden. Tubers purchased from Göteborgs Trädgårdsförening. Received March 17, 1925.

Swedish grown Jerusalem artichokes.

62805. LILIUM TIGRINUM Ker. Liliaceae. Tiger lily.

From Tottori, Japan. Bulbs presented by Prof. Akio Kikuchi, Tottori Agricultural College. Received March 18, 1925.

Japanese-grown bulbs.

62806 and 62807. FICUS spp. Moraceae.

From Amai, Tanganyika Territory, Africa. Seeds presented by A. H. Kirby, Director of Agriculture. Received March 6, 1925.

62806. FICUS BUSSEI Warb.

A large, handsome tropical tree, described (Engler, Botanische Jahrbücher, vol. 46, p. 213) as 50 feet in height with a broad, flat crown exceeding in diameter the height of the tree. The leathery leaves are oblong or oblong-oval. Native to the coast of Zanzibar.

62807. FICUS VOLKENSI Warb.

According to Hutchinson (Flora of Tropical Africa, vol. 6, sect. 2) this is a shrub or small tree, with narrow, papery, dull-green leaves and axillary receptacles about half an inch long. It is reported to yield the best "bark cloth" known in Uganda, where this shrub is native.

62808 to 62814.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received March 7, 1925.

62808. ACER OBLONGUM Wall. Aceraceae. Maple.

A subtropical maple described by Hiern (Hooker, Flora of British India, vol. 1) as a tree 40 to 50 feet tall, with a trunk 1 or 2 feet in diameter, and dark-green, oblong, entire leaves up to 7 inches long. The reddish wood is used for making agricultural implements.

62809. ACER THOMSONI Miquel. Aceraceae. Maple.

A large, handsome tree, with thin gray bark and very large shallow-lobed leaves up to 10 inches long. Native to Sikkim and Bhutan, India, at about 8,000 feet altitude.

62810. ILEX SIKKIMENSIS Kurz. Aquifoliaceae. Holly.

A Himalayan holly described by Kurz (Journal of the Asiatic Society of Bengal, vol. 44, pt. 2) as a moderately tall tree with stout branches; broadly oblong, leathery leaves 5 or 6 inches long and globular yellow berries.

62811. LAUROCERASUS ACUMINATA (Wall.) Roemer (Prunus acuminata Hook. f.). Amygdalaceae.

A slender-branched tree 30 to 40 feet in height, with narrow leaves up to 7 inches long and many-flowered racemes of yellowish white flowers. The fruit is a small, ovoid drupe. The tree is found in the central and eastern Himalayas at altitudes of 5,000 to 7,000 feet.

For previous introduction, see S. P. I. No. 55685.

62812. LITSEA ZEYLANICA Nees. Lauraceae.

An evergreen tree of moderate height, with leathery leaves about 6 inches long, dense clusters of yellowish white flowers, and subglobose berries a third of an inch in diameter. Native to southern India.

62813. MICHELIA CATHCARTII Hook. f. and Thoms. Magnoliaceae.

A lofty tree with magnoliolike foliage and terminal white flowers about an inch in diameter. It is native in the temperate forests of the Sikkim Himalayas,

62808 to 62814—Continued.

where the moderately hard, dark-brown heartwood is used for planking and for making tea boxes.

For previous introduction, see S. P. I. No. 58908.

62814. MICHELIA LANUGINOSA Wall. Magnoliaceae.

This species is characterized by the white, woolly lower surfaces of its long, narrow, magnoliolike leaves. The white, solitary flowers are 3 to 4 inches across. Although this species is a spring-flowering tree in northern India, where it is native, in Sikkim it is said to form an autumn-flowering bush.

For previous introduction, see S. P. I. No. 58910.

62815 to 62846. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceae. Soy bean.

From Nanking, China. Seeds presented by George E. Ritchey, University of Nanking, through John H. Reisner, University of Nanking. Received March 11, 1925. Notes by Mr. Ritchey.

62815. No. 400. Originally from Shantung. Plant about 80 centimeters high; leaves large, round, and yellowish green; flowers white or pink; growing season about 165 days.

62816. No. 401. Originally from Shantung. A bushy plant about 55 centimeters high; the leaves are large, deep green, and egg shaped; the flowers are white; growing season about 150 days.

62817. No. 406. Originally from Kashing. This plant grows to a height of 110 centimeters. The leaves are large, deep green, and egg-shaped, and the flowers are purple. The growing season is about 170 days.

62818. No. 408. This bushy plant, about 60 centimeters in height, bears medium-sized, rather round green leaves and white flowers. The growing season is about 150 days.

62819. No. 435. A bushy plant, about 47 centimeters in height, with small, deep-green, egg-shaped leaves, and white flowers. The growing season is about 150 days.

62820. No. 443. Originally from Hupeh. This plant is bushy and about 50 centimeters in height; the leaves are small, round, and deep green; the flowers are white and purple. Growing season about 150 days.

62821. No. 445. Originally from Shantung. Bushy plant about 40 centimeters high, with medium-sized, egg-shaped, yellowish green leaves, and white or purple flowers. Growing season about 130 days.

62822. No. 446. Originally from Kashing. Bushy plant about 90 centimeters high; leaves large, egg-shaped, and deep green; flowers purple; growing season about 150 days.

62823. No. 485. Originally from Kaifeng, Honan. This plant is about 90 centimeters high and has few branches; the leaves are medium sized, round, and green; the flowers are white; growing season about 130 days.

62815 to 62846—Continued.

62824. No. 488. Originally from Kash-
ing. Plant about 90 centimeters high;
leaves medium sized, elongated, and
deep green; the flowers are purple;
growing season about 150 days.
62825. No. 493. Originally from Shan-
tung. This plant is about 97 centime-
ters in height; the leaves are me-
dium sized, roundish, and green; the
flowers are white or purple; growing
season about 130 days.
62826. No. 497. Originally from Kash-
ing. Plant about 87 centimeters high;
leaves large, egg-shaped, and green;
flowers purple; growing season about
130 days.
62827. No. 4024. Plant about 127 centi-
meters high; leaves large and elon-
gated, and yellowish green; flowers
white; growing season about 130 days.
Resistant to pod worms.
62828. No. 4102. Originally from Peking.
Plant about 47 centimeters high;
leaves small and elongated, and deep
green; flowers purple; growing season
about 90 days.
62829. No. 4103. Originally from Peking.
Plant bushy and about 50 centimeters
high; leaves roundish acuminate, deep
green; flowers purple or white; grow-
ing season about 90 days.
62830. No. 4104. Originally from Peking.
This bushy plant is about 48 centi-
meters high; the leaves are medium
sized, egg-shaped, and yellowish green;
the flowers are purple or white; grow-
ing season about 90 days.
62831. No. 4105. Yien Shan, Chihli.
62832. No. 4106. Yien Shan, Chihli.
62833. No. 4107. Patung, Hupeh.
62834. No. 4108. From the market, Nan-
king.
62835. No. 4109. Nanking. From the mar-
ket.
62836. No. 4110. From the market in Nan-
king.
62837. No. 4111. From Shantung.
62838. No. 4112. This plant is about 103
centimeters in height; the leaves are
large, roundish, and a yellow-green;
the flowers are white or purple; grow-
ing season about 130 days.
62839. No. 4113. This plant bears medium-
sized, elongated green leaves and white
flowers; growing season 130 days.
62840. No. 4114. This plant is about 84
centimeters high; the leaves are
of medium size, elongated and green;
the flowers are pink or white; growing
season about 130 days.
- 62841 to 62846. These samples which have
been selected from the general fields
of the university have not been as-
signed identification numbers.

62841. A. 62844. D.
62842. B. 62845. E.
62843. C. 62846. F.

62847. ZEA MAYS L. Poaceae. Corn.

From Argentina. Seeds collected by H. L.
Westover, Bureau of Plant Industry. Re-
ceived March 13, 1925.

Collected near Choele Choele, Rio Negro.
(Westover.)

62848 to 62854.

From Paris, France. Purchased from Vil-
morin-Andrieux & Co., through David
Fairchild, agricultural explorer, Bureau
of Plant Industry. Received March 19,
1925. Notes by Doctor Fairchild.

62848. AMPELOPSIS. MEGALOPHYLLA Diels
and Gilg. Vitaceae.

Plants of a Chinese vine with im-
mense leaves, which should make it par-
ticularly valuable for decorative purposes
in the covering of outbuildings.

62849. X JUGLANS INTERMEDIA VILMORE-
ANA Carr. Juglandaceae.

Cuttings of a tree 80 feet high, a hy-
brid between the European and American
black walnut, with branches more up-
right than those of the European walnut,
grayish bark, and bronze-colored young
shoots. The slightly coriaceous, smooth,
dark-green, oval leaflets remain on the
branches until killed by frost. The fruit
is not produced every year and never in
large quantities; it is smooth, and the
nut is more deeply furrowed than that
of the European species.

For previous introduction, see S. P. I.
No. 52681.

62850 and 62851. (PRUNUS CERASIFERA X
AMYGDALUS COMMUNIS) X AMYGDALUS
PERSICA. Amygdalaceae.

A hybrid between *Prunus cerasifera* and
Amygdalus communis back crossed with
Amygdalus persica.

62850. Scions. 62851. Grafted plant.

62852. PRUNUS CERASUS L. Amygdala-
ceae. Sour cherry.

Var. *semperflorens*. Plants of the
Cerasier de la Toussaint, which is said to
be a pretty little shrub or tree, flowering
in the spring and again in the fall, and
bearing small, acid fruits.

62853. VIBURNUM DAVIDI Franch. Capri-
foliaceae.

Plants of one of the handsomest small
shrubs I have even seen. The leaves
have a grace of form, a texture, and
color which is remarkable, and the
bright-blue berries add a touch of style
to the plant. This shrub, an introduc-
tion from Szechwan, China, made in
1910, grows well in the shade and re-
quires plenty of moisture.

62854. VIBURNUM THEIIFERUM Rehder.
Caprifoliaceae. Tea viburnum.

Plants of one of the more recent intro-
ductions from China, made by E. H.
Wilson, which is especially beautiful be-
cause of its brilliant-red fruits.

62855 and 62856.

From Algiers, Algeria. Collected by David
Fairchild, agricultural explorer, Bureau
of Plant Industry. Received March 21,
1925. Notes by Doctor Fairchild.

62855. CITRUS LIMETTA Risso. Ruta-
ceae. Sweet lime.

Cuttings of the "limoncello" lime of
Palermo, Italy, brought here by Doctor
Trabut. A large, juicy, seedless lime of
good quality and a good producer. It
may be harder than the lime now grown
in southern Florida.

62855 and 62856—Continued.

62856. *RUMEX TUBEROSUS* L. Polygonaceae.

Plants of a frost-resistant variety from Constantine, Algeria, presented by Professor Maire, of the University of Algiers. The broad, round leaves, used for making sorrel or "oseille" soup, should be studied by amateurs who are interested in the amelioration of potherbs. This variety has been bred with S. P. I. No. 63425 and produces vigorous seedlings intermediate in character between the two forms.

62857 to 62860. *GLADIOLUS* spp. Iridaceae.

From Cape Town, Union of South Africa. Corms presented by Dr. Rudolph Marloth. Received March 16, 1925.

Native South African gladioli introduced for gladiolus breeders.

62857. *GLADIOLUS HIRSUTUS* Jacq.

Grows in sandy stretches which are moist only during the winter.

About a foot in height, this species has bright-red flowers borne in a very lax, few-flowered, secund spike. The sword-shaped leaves are strongly ribbed.

62858. *GLADIOLUS PRIMULINUS* Baker.
Primrose gladiolus.

Var. *maculatus*. This species, flowering in May, grows on the hillsides.

A more tropical species than the preceding; the stem is a foot and a half high, and the basal leaves, three in number, are somewhat leathery, about a foot long. The reflexed segments of the primrose-yellow flowers are each marked with a maroon spot.

62859. *GLADIOLUS RECURVUS* L.

Grows in boggy sandy places; flowers during August.

A slender-stemmed species, up to 2 feet high, with two to six very fragrant flowers in a very lax spike. The flowers are flushed pink with minute blackish lilac spots.

62860. *GLADIOLUS TRISTIS* L.

Found in damp, sandy places; flowers in October.

The flowers of this species are yellowish white and fragrant, and are borne in a very lax spike. The slender stems are up to 2 feet high, and the subterete leaves are strongly three to five ribbed.

62861 to 62864. *LESPEDEZA* spp. Fabaceae.

From Fukuoka, Japan. Seeds presented by Mitsunaga Fujioka, Kyushu Imperial University. Received March 16, 1925.

62861. *LESPEDEZA BICOLOR* Turcz.

Var. *Japonica*. *Natus-hagi*.

62862. *LESPEDEZA BICOLOR INTERMEDIA* Maxim.

Yama-hagi.

62863. *LESPEDEZA CYRTOBOTRYA* Miquel.

Miyagino-hagi. A shrub about 6 feet high, resembling *L. bicolor* in habit, with oval-oblong leaflets and dense clusters of purple flowers. Native to Japan.

62864. *LESPEDEZA OLDHAMI* Miquel.

Chôsen-kihagi.

62865. *GELJERA PARVIFLORA* Lindl. Rutaceae.

From Sydney, New South Wales, Australia. Seeds presented by George Valder, under-secretary and director, Department of Agriculture. Received March 18, 1925.

The *wilga* is a tall shrub or tree, native to the interior of New South Wales, where it reaches a height of about 30 feet. It has slender pendulous branches, narrow leaves 3 to 6 inches long, and when well developed has a highly ornamental appearance with something of the aspect of a weeping willow. It has remarkable drought-enduring qualities, and the leaves are often fed to sheep, which are very fond of them.

62866. *DIOSCOREA* sp. Dioscoreaceae. Yam.

From St. Croix, Virgin Islands. Tubers presented by W. M. Perry, horticulturist, Agricultural Experiment Station. Received March 18, 1925.

Seal-top yam. A distinct advantage of this variety is that it does not burrow its way deeply into the ground, hence it is easy to dig. It may be necessary to throw some soil over the roots if they push themselves upwards out of the ground. We have harvested yams weighing 11 pounds each, but the average weight is about 5 pounds. It is considered a superior yam. I do not know the origin of the word "Seal-top," as it appears to be purely a local name. (Perry.)

62867 to 62870.

From Ariana, near Tunis, Tunisia, Africa. Seeds presented by the chief of the Botanical Service. Received March 9, 1925.

62867. *ACACIA PENDULA* A. Cunn. Mimosaceae.

A handsome evergreen tree, native to Australia, where the leaves and young branches are eagerly eaten by cattle and sheep. In times of drought the *myall*, as the tree is called in Australia, is frequently cut down and fed to stock, which seem to thrive on this fodder. Horses do not care for it.

62868. *PROSOPIS DULCIS* Kunth. Mimosaceae.

A thorny shrub or tree, 60 feet or less in height, native to tropical and sub-tropical Mexico, which bears sweetish pods, rich in protein and sometimes fed to cattle. The wood is strong and durable, and, when polished, resembles mahogany. The bark, leaves, and pods contain tannin.

62869. *PROSOPIS HORRIDA* Kunth. Mimosaceae.

A thorny shrub, native to tropical America, introduced for testing the fodder value of its sweetish pods. It is said to be very drought resistant.

62870. *TRIGONELLA ENSIFERA* Trautv. Fabaceae.

An annual leguminous plant, very closely allied to the fenugreek (*T. foenum-graecum*), from which it differs chiefly in having hairy pods. Its native country is unknown.

62871 and 62872. *COLOCASIA ESCULENTA* (L.) Schott. Araceae. Dasheen.

From Yokohama, Japan. Tubers purchased from the Yokohama Nursery Co. Received March 23, 1925. Notes by R. A. Young, Bureau of Plant Industry.

62871 and 62872—Continued.

62871. *Kinukatsugi*. A Japanese taro, of the dasheen type, producing a considerable number of small cormels, or tubers. It is considered by the Japanese to be one of their finest varieties. The cormels are similar in appearance to those of other Japanese taros tested in this country; but though small, they are of better quality.

For previous introduction, see S. P. I. No. 45481.

62872. *Yatsugashira*. One of the small-growing, short-season taros. Leaf stems blackish maroon except near the blade. In Japan, this is rated as one of the best varieties. The corm is small, multiple headed, and very irregular in shape, but the quality is good. The tubers are small, but snowy white and of very good quality; they are somewhat moist when cooked soon after harvesting, but become drier and mealier in storage. A desirable variety and an excellent keeper.

For previous introduction, see S. P. I. No. 40805.

62873 to 62896.

From Chihli, China. Scions and tubers collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 19, 1926. Notes by Mr. Dorsett.

Numbers 62873 to 62892 are from Tung-hoshankou, near Huailai. The fruit area in this region is at the edge of the northern foothills, at an altitude of about 1,800 feet.

62873. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

No. 1983. February 3, 1925. *Ch'iu Tao* (autumn peach). The creamy white fruits, 2 to 3 inches in diameter, ripen in September.

62874 to 62882. *MALUS* spp. Malaceae. Apple.

62874. *MALUS* sp.

No. 1965. February 2, 1925. A variety called "sand crab apple" because of the resemblance of the flesh to grains of sand. The fruits are yellowish green, red, and $1\frac{1}{2}$ inches in diameter. They ripen at the end of August.

62875. *MALUS* sp.

No. 1968. February 2, 1925. *Hsiang Kuo* (fragrant apple). A Chinese apple, 3 or more inches in diameter, which is green with a pink or red blush. Ripens in August.

62876. *MALUS* sp.

No. 1981. February 3, 1925. *Hung Sha Kuo* (red crab apple). A variety 1 to $1\frac{1}{2}$ inches in diameter which ripens in August.

62877. *MALUS* sp.

No. 1992. February 3, 1925. *Pai Ping Kuo* (white apple). The fruits of this large Chinese apple ripen in September and are said to be 3 to 4 inches in diameter.

62878. *MALUS* sp.

No. 1994. February 3, 1925. *Pin Tze* (sour crab apple). A variety about 2 inches in diameter, which ripens during the middle of September.

62873 to 62896—Continued.

62879. *MALUS* sp.

No. 1995. February 3, 1925. *Pai Sha Kuo* (white crab apple). This apple ripens in August and is said to produce fruits 2 to 3 inches in diameter.

62880. *MALUS* sp.

No. 2011. February 4, 1925. A variety called *Pai Ping Kuo* (white apple). The fruits, reported to be 3 to 4 inches in diameter, ripen in September, becoming light green to nearly white.

62881. *MALUS* sp.

No. 2015. February 4, 1925. *Ch'iu Kuo* (autumn fruit). A crab apple producing red fruits 1 to $1\frac{1}{2}$ inches in diameter, which ripens in September.

62882. *MALUS* sp.

No. 2018. February 4, 1925. *Hsiao Hung Hai Tang Kuo* (small red crab apple). Fruits three-fourths to 1 inch in diameter, which ripen in September.

62883 to 62885. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

62883. No. 1989. February 3, 1925. *Ta Hung Hsing* (large red apricot). Yellow-fleshed fruits $1\frac{1}{2}$ to 2 inches in diameter which ripen the latter part of June and the first part of July.

62884. No. 1990. February 3, 1925. A variety known as *Mai Huang Hsing* (straw-yellow apricot). The fruits, yellow outside and white within, ripen in June and are about $1\frac{1}{2}$ to 2 inches in diameter.

62885. No. 3016. February 4, 1925. *Ta Pien Hsing* (large flat apricot). The yellow fruits are about 1 to $1\frac{1}{4}$ inches in diameter and ripen in July. The buds appear to be abnormally large; this may be characteristic.

62886 to 62889. *PRUNUS* spp. Amygdalaceae. Plum.

62886. *PRUNUS* sp.

No. 1967. February 2, 1925. *Hung Li Tze* (red plum). A variety 1 to $1\frac{1}{2}$ inches in diameter, which ripens in July.

62887. *PRUNUS* sp.

No. 1984. February 3, 1925. *Hung Li Tze* (red plum). Deep red when ripe and $1\frac{1}{2}$ to 2 inches in diameter. Ripens in July.

62888. *PRUNUS* sp.

No. 2009. February 4, 1925. *Ping Ting Hsiang Li Tze* (flat-topped fragrant plum). The red fruits are $1\frac{1}{4}$ to 2 inches in diameter and ripen in July.

62889. *PRUNUS* sp.

No. 2010. February 4, 1925. *Shui Ling Tang Li Tze* (water bell plum). The fruits are 1 to $1\frac{1}{2}$ inches in diameter and green and red when ripe, which is in July.

62890 to 62894. *PYRUS* spp. Malaceae. Pear.

62873 to 62896—Continued.

62890. *PYRUS* sp.

No. 1963. February 2, 1925. *Ch'iu Li* (autumn pear), a very good keeper. The pale-yellow fruits, 3 or more inches in diameter, ripen in September.

62891. *PYRUS* sp.

No. 1966. February 2, 1925. *Hsiang Shui Li* (fragrant water pear). The fruits become yellow when ripe, which is during August, and are 3 or more inches in diameter.

62892. *PYRUS* sp.

No. 1977. February 3, 1925. *Pau Chiu Su Li* (half-catty brittle pear). A yellow-fruited variety, $2\frac{1}{2}$ to 3 inches in diameter, which ripens during the middle of September. The fruits sometimes have a pink blush.

62893. *PYRUS* sp.

No. 1979. Tsanfengying, near Huailai. February 3, 1925. A variety called *Ch'iu Li* (autumn pear). The fruits are yellow with dark-colored spots and are 2 to 3 inches in diameter. Ripens in September.

62894. *PYRUS* sp.

No. 2017. Tung Hua Ssu temple, near Huailai. February 4, 1925. *Huai Lai Ya Kuang Li* (broad duck pear of Huailai). Yellow fruits which ripen in September.

62895 and 62896. *SOLANUM TUBEROSUM* L. Solanaceae. **Potato.**

62895. No. 1958. Huailai. February 3, 1925. *Pai P'i Tu Tou*. Tubers of a rather small potato grown in this vicinity. Planting is done early in April and harvesting in September.

62896. No. 1959. Huailai. February 3, 1925. *Tze P'i Tu Tou*. Tubers of a potato which is planted in April and harvested in September.

62897 to 62920.

From Eala, Belgian Congo, Africa. Seeds presented by V. Goossens, director, Botanic Garden. Received March 10, 1925.

62897. *ALBIZZIA ADIANTHIFOLIA* (Schum.) W. F. Wight (*A. fastigiata* E. Mey.). Mimosaceae.

A tropical African tree, of fastigate habit, with finely divided foliage. According to Holland (Useful Plants of Nigeria, pt. 2) this tree yields a gum somewhat similar to gum arabic. The seeds, after maceration, are eaten as a sauce by the natives of West Africa.

For previous introduction, see S. P. I. No. 61479.

62898. *ARTANEMA SESAMOIDES* Benth. Scrophulariaceae.

A tall, sparingly branched herbaceous plant, 2 to 3 feet high, with large, bluish lilac flowers. Native to the East Indies and distributed through tropical Africa.

62899. *BARYXYLUM AFRICANUM* (Sond.) Pierre (*Peltophorum africanum* Sond.). Caesalpiniaceae.

A handsome, yellow-flowered tree, with a habit like a Mimosa, native to tropical and subtropical Africa. It becomes 20 to 30 feet in height, and should be tested in southern Florida and also in southern California as an ornamental shade tree.

62897 to 62920—Continued.

62900. *BOSQUEIA ANGOLENSIS* Ficalho. Moraceae.

This is described (Flora of Tropical Africa, vol. 6, sec. 2) as a handsome tree 50 feet or less in height, with a loosely pyramidal head, and a trunk often free of branches to nearly half its height. The rigidly leathery leaves are elliptic and 2 to 6 inches long. Native to western tropical Africa.

62901. *CARICA PAPAYA* L. Papayaceae. **Papaya.**

Var. *elegantissima*.

62902. *CEPHALONEMA POLYANDRUM* Schum. Tiliaceae.

A tropical relative of our basswood, which is a shrub with broadly oval leaves and yellow flowers about an inch across. Native to the Belgian Congo and Cameroon.

62903. *CHAETOPHLOA SULCATA* (Aubl.) Hitchc. (*Setaria sulcata* Raddi). Poaceae. **Grass.**

A perennial, tropical grass with rather dense panicles.

62904. *CLITORIA LAURIFOLIA* Poir. (*C. canifolia* Benth.). Fabaceae.

A pink-flowered, erect, herbaceous plant, with hairy stems and leaves, indigenous to the West Indies and northern South America.

62905 to 62907. *CORCULUM LEPTOPUS* (Hook. and Arn.) Stuntz (*Antigonon leptopus* Hook. and Arn.). Polygonoaceae.

The Rosa de montana is a handsome, summer-blooming climber, distributed from Mexico to Chile, where it grows in the cooler highland regions. The flowers with colored sepals are in many-flowered racemes.

62905. Variety *alba*. A white-flowered form.

62906. Variety *rosea*. A pink-flowered form.

62907. Variety *rubra*. A red-flowered form.

62908. *CRACCA VILLOSA HIRTA* (Buch.-Ham.) Kuntze. Fabaceae.

A woody perennial, with reddish flowers, native to the East Indies.

62909. *CRACCA VILLOSA PURPUREA* (L.) Kuntze (*Tephrosia purpurea* Pers.). Fabaceae.

An herbaceous perennial, native to tropical Africa, with purple flowers.

62910. *HONCKENYA FICIFOLIA* Willd. Tiliaceae.

A very striking ornamental shrub, native to western tropical Africa. According to M. T. Masters (Flora of Tropical Africa, vol. 1) the branches are purplish and covered with yellowish hairs, and the hairy leaves are more or less deeply three to seven lobed. The large purple flowers, 2 to 4 inches wide, are in terminal racemes.

62911. *LIMONIA POGGEI LATIALATA* Wildem. Rutaceae.

A spiny shrub or small tree, native to Uganda, with pinnate leaves having winged stems and large white flowers borne in clusters of 4 to 10 in the axils of the leaves.

62897 to 62920—Continued.

62912. *MILLETTIA MANNII* Baker. Fabaceae.

A tropical African relative of the wisteria, which is described by Baker (Flora of Tropical Africa, vol. 1) as a shrub or small tree with compound leaves about 9 inches long with 15 or more pale-green leaflets. The reddish flowers appear in long-stalked, slightly compound panicles about as long as the leaves.

62913. *OUROUPARIA GAMBIR* (Hunter) Baill. (*Uncaria gambir* Roxb.). Rubiaceae.

A climbing shrub or bush which is found wild or cultivated throughout the Malay Archipelago and the East Indies. From the leaves is obtained the extract known as gambir, which is highly valued for tanning purposes; it is said to impart a softness to leather not obtainable from other tanning agents.

62914. *PASPALUM SCROBICULATUM COMMERSONII* (Lam.) Stapf. Poaceae. Grass.

This is regarded as a fodder grass of some value in parts of tropical Africa, according to Stapf (Flora of Tropical Africa, vol. 9, pt. 3). It is perennial, 1 to 2 feet or more in height, and usually scantily tufted from a short rhizome. The simple or sparingly branched culms are erect or ascending.

62915. *PENNISSETUM BENTHAMII* Steud. Poaceae. Grass.

A tropical African perennial grass, used as fodder in Rhodesia and Uganda, according to Holland (Useful Plants of Nigeria, p. 842).

62916. *PENTACLETHRA MACROPHYLLA* Benth. Mimosaceae.

A large, handsome tree, belonging to the Mimosa family, which appears of promise as a shade tree for the more tropical portions of the United States. According to Holland (Useful Plants of Nigeria, pt. 2), in tropical Africa, where the tree is native, the oily seeds are used as food by the natives, and the hard, durable wood is excellent for cabinet-work.

62917. *PIPTADENIA AFRICANA* Hook. f. Mimosaceae.

A wide-spreading tree, 15 to 20 feet high, with finely pinnate leaves 6 inches or more long, small spikes of whitish flowers which appear before the leaves, and straight, flat pods about a foot in length. Native to tropical Africa.

62918. *TETRAPLEURA TETRAPTERA* (Schum.) Taub. (*T. thonningii* Benth.). Mimosaceae.

A tall, unarmed tree, described by Oliver (Flora of Tropical Africa) as having alternate compound leaves with leathery leaflets and small leaves with spikelike clusters. According to Holland (Useful Plants of Nigeria, pt. 2), the pods are roasted and ground to make a "black soup," a common native dish in parts of tropical Africa. The soft pulp of these pods contains sugar, tannin, and a small quantity of saponin. The presence of saponin enables the natives to use the pods for washing purposes also.

62897 to 62920—Continued.

62919. *TRIUMFETTA SEMITRILOBA* Jacq. Tilliaceae.

Variety *tomentosa*. A bushy, herbaceous, hairy plant widely distributed in the Tropics, with bright-yellow flowers produced in long leafy racemes.

62920. *URENA LOBATA* L. Malvaceae.

Variety *reticulata*. An erect, shrubby, hairy, herbaceous plant, widely distributed throughout the Tropics, which is valued in India and also in parts of tropical Africa for the fiber obtained from the bark. This fiber is suitable for the manufacture of bags and twine and is regarded as a good substitute for jute, according to Holland (Useful Plants of Nigeria, pt. 1).

62921 and 62922.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 19, 1925. Notes by Doctor Fairchild.

62921. *AMPELOPSIS WATSONIANA* Wilson. Vitaceae.

A Chinese species, introduced in 1908, with large, 3-parted leaves, of an attractive green, and bunches of red fruits which become black. The flowers appear during July. This should be an attractive vine for walls.

62922. *DECAISNEA FARGESII* Franch. Lardizabalaceae.

One of the Vilmorin introductions from China, 1895, which is not very hardy here. This handsome shrub is distinguished by beautiful foliage in the summer and curious blue fruits, the size of one's finger, in the autumn.

62923 to 62934. *ORYZA SATIVA* L. Poaceae. Rice.

From Tottori, Japan. Seeds presented by Prof. Akio Kikuchi, Tottori Agricultural College. Received March 18, 1925.

Locally developed varieties.

62923. No. 1. *Wase Shinriki* No. 7.

62924. No. 2. *Wase Shinriki*.

62925. No. 3. *Oshiu*.

62926. No. 4. *Wase Kitabu*.

62927. No. 5. *Goriki* No. 7.

62928. No. 6. *Fukuyama* No. 7.

62929. No. 7. *Imogama* No. 2.

62930. No. 8. *Marygama* No. 1.

62931. No. 9. *Hayaoseki* No. 1.

62932. No. 10. *Hayaoseki* No. 3.

62933. No. 11. *Akagemochi*.

62934. No. 12. *Shimofruimochi*.

62935. *HELIANTHUS TUBEROSUS* L. Asteraceae. Jerusalem artichoke.

From London, England. Tubers purchased from James Carter & Co. Received March 27, 1925.

Red-skinned artichoke. An English variety.

62936 to 62939.

From Caracas, Venezuela. Seeds presented by Dr. Henry Pittier. Received March 6, 1925.

62936. *DOLICHOS LABLAB* L. Fabaceae.
Hyacinth bean.

No. 4. From Tachira.

62937. *PHASEOLUS LUNATUS* L. Fabaceae.
Lima bean.

No. 45. From Los Guayos, Carabobo.

62938 and 62939. *PHASEOLUS VULGARIS* L. Fabaceae.
Common bean.

62938. No. 44. A black variety from La Punta, Merida.

62939. No. 46. A black variety from Carache, Trujillo.

62940 to 62943. *MUSA PARADISIACA SAPIENTUM* (L.) Kuntze. Musaceae.
Banana.

From San Juan, P. R. Suckers presented by O. W. Barrett, agricultural adviser, Department of Agriculture and Labor. Received March, 1925.

Introduced for special experimental work.

62940 and 62941. *Manzano*. The fruits of this variety are very bright yellow, with a thin and delicate skin and flesh of fine texture and applelike flavor. The bunches of this variety are generally small, seldom reaching 100 fruits.

62940. No. 1.

62941. No. 2.

62942 and 62943. *Datil*. The fruit of this "date" banana is very small, not over an inch or so long, it is said, but of unusual sweetness, though inclined to be dry. This may be of use for breeding purposes. The plants are small and do not seem very vigorous. (David Fairchild.)

62942. No. 1.

62943. No. 2.

62944 to 62959.

From Caracas, Venezuela. Seeds presented by Dr. Henry Pittier. Received March 11, 1925.

62944. *LATHYRUS SATIVUS* L. Fabaceae.
Bitter vetch.

No. 33. From Lobatera, Tachira.

62945 to 62954. *PHASEOLUS VULGARIS* L. Fabaceae.
Common bean.

62945. No. 3 [7]. A cream-colored variety from Tachira.

62946. No. 5a. From San Miguel, Trujillo.

62947. No. 5b. From San Miguel, Trujillo.

62948. No. 18.

62949. No. 26. A pink variety.

62950. No. 30. A black variety from Tachira.

62951. No. 35. From Tachira.

62952. No. 37.

62953. No. 38a. From Valera, Trujillo.

62954. No. 39a. From Valera, Trujillo.

62955. *PISUM SATIVUM* L. Fabaceae. Pea.

No. 43. From Merida.

62944 to 62959—Continued.

62956. *VICIA FABA* L. Fabaceae.

Broad bean.

No. 32. From Tachira.

62957. *VIGNA CYLINDRICA* (Stickm.) Skeels. Fabaceae. Catjang.

No. 42. A white variety from Mercado de Caracas.

62958 and 62959. *VIGNA SINENSIS* (Torne) Savi. Fabaceae. Cowpea.

62958. No. 40. A chestnut-colored variety found in Miranda.

62959. No. 41. A pink variety from Cojedes.

62960 and 62961. *ACACIA* spp. Mimosaceae.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received March 20, 1925.

62960. *ACACIA DISCOLOR* Willd.

A tall, unarmed shrub or small tree, native to southeastern Australia and Tasmania, which bears, in autumn, terminal and axillary clusters of yellow flowers.

62961. *ACACIA PENNINERVIS* Sieber.

The bark of this Australian acacia contains 18 per cent of tannic acid, according to Maiden (Useful Native Plants of Australia); furthermore, it is said to endure comparatively low temperatures. It is a tall shrub or tree, with narrow sickle-shaped phyllodia and short racemes of pale-yellow flowers.

62962 to 63148. *ORYZA SATIVA* L. Poaceae. Rice.

From Kyoto, Japan. Seeds presented by Yoshinori Takesaki, assistant professor of plant breeding, Kyoto Imperial University. Received March 24, 1925.

62962 to 62968. Pure breed, originated by pure-line selection at the Kinai branch station. (Takesaki.)

62962. No. 1. *Oba Kinai*.

62963. No. 2. *Oba Kinai*.

62964. No. 1. *Aikoku Kinai*.

62965. No. 2. *Aikoku Kinai*.

62966. No. 3. *Aikoku Kinai*.

62967. No. 4. *Aikoku Kinai*.

62968. *Mubo Aikoku*.

62969 to 63042. Crossbreed originated at the Kinai branch station. (Takesaki.)

62969 to 63033. Kinai Early.

62969. No. 1. *Oba* × *Shinshukaneke*.

62970. No. 2. *Oba* × *Shinshukaneke*.

62971. No. 3. *Oba* × *Shinshukaneke*.

62972. No. 4. *Fukuyama* × *Kameji*.

62973. No. 5. *Sekitori* × *Shinriki*.

62974. No. 6. *Shinriki* × *Omachi*.

62975. No. 7. *Sekitori* × *Shinriki*.

62976. No. 8. *Fukuyama* × *Kameji*.

62977. No. 9. *Gokawase* × *Shinriki*.

62978. No. 11. *Waseshinriki* × *Oba*.

62979. No. 12. *Shinriki* × *Aikoku*.

62962 to 63148—Continued.

62980. No. 13. *Waseshinriki* × *Oba*.
 62981. No. 14. *Shinriki* × *Okushirozasa*.
 62982. No. 15. *Waseshinriki* × *Oba*.
 62983. No. 16. *Oba* × *Aikoku*.
 62984. No. 21. *Shinshukaneko* × *Aikoku*.
 62985. No. 22. *Shinshukaneko* × *Aikoku*.
 62986. No. 23. *Kokuryomiyako* × *Aikoku*.
 62987. No. 24. *Fukuyama* × *Kameji*.
 62988. No. 25. *Kokuryomiyako* × *Aikoku*.
 62989. No. 26. *Oba* × *Shinshukaneko*.
 62990. No. 27. *Shinshukaneko* × *Aikoku*.
 62991. No. 28. *Guneki* × *Shinshukaneko*.
 62992. No. 29. *Kameji* × *Guneki*.
 62993. No. 30. *Kokuryomiyako* × *Aikoku*.
 62994. No. 31. *Waseshinriki* × *Aikoku*.
 62995. No. 32. *Waseshinriki* × *Shinkinatoku*.
 62996. No. 33. *Waseshinriki* × *Oba*.
 62997. No. 36. *Oba* × *Shinshukaneko*.
 62998. No. 37. *Fukuyama* × *Guneki*.
 62999. No. 38. *Shinshukaneko* × *Aikoku*.
 63000. No. 39. *Kokuryomiyako* × *Aikoku*.
 63001. No. 40. *Fukuyama* × *Guneki*.
 63002. No. 41. *Kamenoo* × *Oba*.
 63003. No. 42. *Waseshinriki* × *Oba*.
 63004. No. 43. *Kamenoo* × *Oba*.
 63005. No. 44. *Kokuryomiyako* × *Shodochi*.
 63006. No. 56. *Shinshukaneko* × *Aikoku*.
 63007. No. 57. *Shinshukaneko* × *Aikoku*.
 63008. No. 58. *Gokawase* × *Shinriki*.
 63009. No. 59. *Takenari* × *Nimaka*.
 63010. No. 60. *Oba* × *Shinshukaneko*.
 63011. No. 61. *Shinriki* × *Aikoku*.
 63012. No. 62. *Shinshukaneko* × *Aikoku*.
 63013. No. 64. *Shinshukaneko* × *Aikoku*.
 63014. No. 65. *Shinriki* × *Aikoku*.
 63015. No. 66. *Shinshukaneko* × *Aikoku*.
 63016. No. 67. *Waseshinriki* × *Oba*.
 63017. No. 69. *Shinriki* × *Aikoku*.
 63018. No. 70. *Shinriki* × *Aikoku*.
 63019. No. 71. *Shinshukaneko* × *Aikoku*.

62962 to 63148—Continued.

63020. No. 73. *Shinriki* × *Aikoku*.
 63021. No. 74. *Kokuryomiyako* × *Aikoku*.
 63022. No. 76. *Kamenoo* × *Sekitori*.
 63023. No. 77. *Waseshinriki* × *Aikoku*.
 63024. No. 78. *Arakishinriki* × *Araki*.
 63025. No. 90. *Shinkin* × *Aikoku*.
 63026. No. 91. *Shinriki* × *Aikoku*.
 63027. No. 92. *Kokuryomiyako* × *Aikoku*.
 63028. No. 93. *Kamenoo* × *Sekiyama*.
 63029. No. 94. *Kamenoo* × *Sekiyama*.
 63030. No. 95. *Kamenoo* × *Sekiyama*.
 63031. No. 96. *Kamenoo* × *Tataso*.
 63032. No. 156. *Waseshinriki* × *Oba*.
 63033. No. 157. *Waseshinriki* × *Oba*.
 63034 to 63042. Kinai.
 63034. No. 158. *Shinriki* × *Oba*.
 63035. No. 159. *Oba* × *Shinriki*.
 63036. No. 160. *Shinriki* × *Oba*.
 63037. No. 181. *Kokuryomiyako* × *Chujukushinriki*.
 63038. No. 182. *Omachi* No. 3 × *Chujukushinriki*.
 63039. No. 183. *Omachi* × *Chujukushinriki*.
 63040. No. 195. *Kokuryomiyako* × *Chujukushinriki*.
 63041. No. 196. *Kokuryomiyako* × *Chujukushinriki*.
 63042. No. 197. *Kokuryomiyako* × *Chujukushinriki*.
 63043 to 63131. A collection of seed from various parts of Japan. (Takesaki.)
 63043. No. 294. *Akage*.
 63044. No. 295. *Kinugasavase*.
 63045. No. 296. *Homura*.
 63046. No. 297. *Obaso*.
 63047. No. 298. *Bungo*.
 63048. No. 299. *Sekiyama*.
 63049. No. 300. *Kanbarabozu*.
 63050. No. 301. *Shikishima*.
 63051. No. 302. *Obachu*.
 63052. No. 303. *Oba*.
 63053. No. 304. *Asahibo*.
 63054. No. 305. *Moriwase*.
 63055. No. 306. *Soshinriki*.
 63056. No. 307. *Goke*.
 63057. No. 308. *Hayataka*.
 63058. No. 310. *Kamenoo*.
 63059. No. 311. *Shinshukaneko*.
 63060. No. 312. *Yamatochikara*.
 63061. No. 313.
 63062. No. 314.
 63063. No. 315. *Bungo*.
 63064. No. 316. *Shishu*.

62962 to 63148—Continued.

63065. No. 317. *Sedaibo*zu.
 63066. No. 318. *Nagoyakairyō*.
 63067. No. 319. *Johō*.
 63068. No. 320. *Hachiemon*.
 63069. No. 321. *Yatsukabo*.
 63070. No. 322. *Komyonishiki*.
 63071. No. 323. *Yaetsu*.
 63072. No. 324. *Tamanoō*.
 63073. No. 325. *Kobore*.
 63074. No. 326. *Shirohōzo*.
 63075. No. 327. *Nisenbon No. 2*.
 63076. No. 328. *Nimaikawaso*.
 63077. No. 329.
 63078. No. 330.
 63079. No. 331. *Kairyōbozu*.
 63080. No. 332. *Takamiya*.
 63081. No. 333. *Waseshinriki*.
 63082. No. 334. *Nii*.
 63083. No. 335. *Tamagokata No. 73*.
 63084. No. 336. *Nabeshima*.
 63085. No. 337. *Soshinriki*.
 63086. No. 338. *Soshinriki*.
 63087. No. 339. *Soshinriki No. 1*.
 63088. No. 340. *Ishijiro*.
 63089. No. 341. *Sawadabo*.
 63090. No. 342.
 63091. No. 343.
 63092. No. 344.
 63093. No. 345.
 63094. No. 346.
 63095. No. 347.
 63096. No. 348.
 63097. No. 349. *Kinchyaku*.
 63098. No. 350. *Kinchyakuhēn*.
 63099. No. 351. *Kinchyakubozu*.
 63100. No. 352. *Yabuerami*.
 63101. No. 353. *Gonpachi*.
 63102. No. 354. *Nisenbon No. 1*.
 63103. No. 355. *Tosabozu*.
 63104. No. 356. *Takasakibozu*.
 63105. No. 357. *Ipponwase*.
 63106. No. 358. *Seisui*.
 63107. No. 359. *Shirouzura*.
 63108. No. 360. *Gonpachi No. 13*.
 63109. No. 361. *Sigeri*.
 63110. No. 362. *Hattansō*.
 63111. No. 363. *Rokusuke*.
 63112. No. 364. *Gokawase*.
 63113. No. 365. *Kyoriki*.
 63114. No. 366. *Shirobeniya*.
 63115. No. 367. *Beniyashiro*.

62962 to 63148—Continued.

63116. No. 368. *Hitachinishiki*.
 63117. No. 369. *Fukuyama*.
 63118. No. 370. *Nisenbon*.
 63119. No. 371. *Fukuokawase No. 2*.
 63120. No. 372. *Hiroshimashinbo*.
 63121. No. 373. *Nippon*.
 63122. No. 374. *Mori*.
 63123. No. 375. *Shirome*.
 63124. No. 376. *Sekaiichi*.
 63125. No. 377. *Araki*.
 63126. No. 378.
 63127. No. 379.
 63128. No. 380. *Sektorimie No. 7*.
 63129. No. 381. *Masaoka No. 2*.
 63130. No. 382. *Izumowase*.
 63131. No. 383. *Tsuganishiki*.
 63132 to 63148. Additional varieties for which no specific data are available.
 63132. No. 384. 63141. No. 393.
 63133. No. 385. 63142. No. 394.
 63134. No. 386. 63143. No. 395.
 63135. No. 387. 63144. No. 396.
 63136. No. 388. 63145. No. 397.
 63137. No. 389. 63146. No. 398.
 63138. No. 390. 63147. No. 399.
 63139. No. 391. 63148. No. 400.
 63140. No. 392.

63149. MEDICAGO SATIVA L. Fabaceae.
Alfalfa.

From Kuelsheim, Baden, Germany. Seeds presented by Alois Grimm, through Charles J. Brand, United States Department of Agriculture. Received March 25, 1925.

Introduced for testing by alfalfa specialists.

Kuelsheim is the native place of Wendell Grimm, who, in 1857, brought the alfalfa seed into Minnesota, which after many years of natural selection became the hardy Grimm alfalfa of to-day. (Brand.)

63150. TRIFOLIUM PRATENSE L. Fabaceae.
Red clover.

From Reading, England. Seeds purchased from Sutton & Sons. Received March 27, 1925.

Giant hybrid red clover. An English variety.

63151 to 63153. PISUM SATIVUM L. Fabaceae.
Pea.

From Histon, Cambridge, England. Seeds purchased from W. J. Unwin, through D. N. Shoemaker, Bureau of Plant Industry. Received March 30, 1925.

Locally developed varieties.

63151. Unwin's Advance Guard.

63152. Unwin's Cropper.

63153. Unwin's Little Wonder.

63154. TRICHOSANTHES BRACTEATA
(Lam.) Voigt (*T. palmata* Roxb.).
Cucurbitaceae.

From Simla, India. Seeds presented by H. E. J. Peake, Khaltoo Fruit Orchards, Solan brewery. Received March 30, 1925.

This is called "Gohaker" by the Indians of this region; in Bengal it is called "Makhai." It is a very ornamental creeper resembling the tree-tomato. The flesh of the fruit is slate gray and very bitter; it is used by the Indians medicinally for ulcers and other similar disorders. (Peake.)

63155 to 63203.

From Peking, Chihli, China. Seeds collected by R. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 10, 1925. Notes by Mr. Dorsett.

January 13, 1925. Unless otherwise stated, the following seeds, Nos. 63155 to 63181, were purchased from Nau Yu Shing.

63155. ALLIUM FISTULOSUM L. Liliaceae.
Welsh onion.

No. 1844. A Chinese variety planted in the fall, allowed to stand over winter, then transplanted in the spring and harvested in the fall.

63156. ALLIUM sp. Liliaceae. Onion.

No. 1862. This variety is planted in the early spring and until the end of May. It is chopped fine and fried with meat.

63157 and 63158. APIUM GRAVEOLENS L. Apiaceae. Celery.

63157. No. 1848. Planted in the spring or early summer, and when an inch or so high it is transplanted. It is chopped into pieces and used to cook with meat.

63158. No. 1849. *Yang Ch'iu Ts'ai* (foreign celery). Planted in early August and later transplanted; harvested in November.

63159. BETA VULGARIS L. Chenopodiaceae. Beet.

No. 1855. This variety is eaten boiled with meat and also with other vegetables.

63160. BRASSICA PEKINENSIS (Lour.) Gagn. Brassicaceae. Petsai.

No. 1850. *Pai Ts'ai* (winter cabbage). Planted in August and transplanted when the plants are young. Matures in 60 to 70 days.

63161 to 63172. BRASSICA spp. Brassicaceae.

63161. BRASSICA sp.

No. 1822. *Piao er Ts'ai* (calabash vegetable). This variety, which is used like cabbage, is planted in the early spring and later transplanted.

63162. BRASSICA sp.

No. 1830. *Tze T'ai Ts'ai* (purple-stemmed vegetable). A variety planted during any season and which matures in about 50 days. Used chiefly by foreigners as greens.

63163. BRASSICA sp.

No. 1831. *Kai Ts'ai* (cover vegetable). Planted during any season and matures in about 50 days.

63155 to 63203—Continued.

63164. BRASSICA sp.

No. 1833. *T'ai Ku Ts'ai* (great ancient vegetable). Planted in early spring and later transplanted. Used like cabbage.

63165. BRASSICA sp.

No. 1834. *Kai Lan Ts'ai* (fragrant cover vegetable). This variety is planted in July, and when the plants are 2 or 3 inches high they are transplanted. Harvested about 50 days after transplanting.

63166. BRASSICA sp.

No. 1836. *Yu Ts'ai* (oil vegetable). Planted in July and harvested in 50 to 60 days. The leaf blades are chopped into small pieces, scalded, and fried with meat or dried shrimp.

63167. BRASSICA sp.

No. 1837. A vegetable resembling a Chinese turnip. Planted in July and harvested in about 60 days. Used only for pickling.

63168. BRASSICA sp.

No. 1847. *T'ai Ts'ai* (moss vegetable). A variety planted in spring and early summer, maturing for market in 60 days. The stems are chopped and used in soup.

63169. BRASSICA sp.

No. 1851. *Tin Hsin Pai Pai Ts'ai* (summer cabbage). Planted in early spring. When young plants are 2 to 4 inches high they are transplanted; harvested in 60 to 70 days. Used like any other cabbage.

63170. BRASSICA sp.

No. 1860. *Shih Liu Hung* (red pomegranate vegetable). The leaves are used for frying with meat and also for pickling.

63171. BRASSICA sp.

No. 1865. *Tze Ts'ai Hua* (purple vegetable flower). Planted during any season and matures in 60 to 70 days. Used with meat and bean curd.

63172. BRASSICA sp.

No. 1867. *Hsiao Pai Ts'ai* (small cabbage). This variety is planted during any season and matures for market in 40 to 50 days. It is cooked mostly with bean curd.

63173 to 63175. CAPSICUM ANNUUM L. Solanaceae. Red pepper.

63173. No. 1852. *Yang Chi Chiao Chiu Chiao* (goat-horn pepper). Planted in early spring and later transplanted. Used for seasoning, with sesame oil, and to make pepper pickle.

63174. No. 1853. *Ta Hung Shih Tzu Chiao* (large red persimmon pepper). Planted in early spring and later transplanted to the field; harvested in the fall.

63175. No. 1854. *Hung Ch'ang Chiu Chiao* (red long pepper). Used as seasoning for meats and soups.

63155 to 63203—Continued.

63176. *CORIANDRUM SATIVUM* L. Apiaceae.
Coriander.

No. 1835. Planted in any growing season and harvested in 20 to 30 days. It is chopped fine and used as a condiment and is also used for pickling.

63177 and 63178. *CUCUMIS SATIVUS* L. Cucurbitaceae.
Cucumber.

63177. No. 1840. This variety is planted in early spring and harvested in 40 to 50 days.

63178. No. 1841. *Tung Tzu Huang Kua* (greenhouse cucumber). This looks different from our forcing type and is better flavored. It is grown in native greenhouses heated with flues.

63179. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae.
Cushaw.

No. 1864. *Nan Kua* (southern pumpkin). This variety is planted in the early spring and later transplanted. It is boiled with meat.

63180. *CUCURBITA PEPO* L. Cucurbitaceae.
Pumpkin.

No. 1863. *Hsi Hulu* (western gourd). Planted in early spring and later transplanted. When the plants have 10 leaves they begin to bear and continue through the season.

63181. *DAUCUS CAROTA* L. Apiaceae.
Carrot.

No. 1843. *Yang Hung Luo Pu* (foreign carrot). This is a smooth, rather long carrot of a bright orange. It is boiled with meat and served with a thickened sauce.

63182. *ECHINOCHLOA CRUSGALLI* EDULIS Hitchc. Poaceae.
Barnyard millet.

No. 1875. January 16, 1925. Presented by Dr. A. A. Howath, of the Peking Union Medical College. Doctor Howath collected this variety in Manchuria several years ago.

63183. *FOENICULUM VULGARE* Hill. Apiaceae.
Fennel.

No. 1839. This variety is planted any time through the growing season and is harvested in 40 to 50 days. It is chopped into small pieces and used in meat pie.

63184. *GLEDITSIA SINENSIS* Lam. Caesalpiniaceae.
Chinese honey locust.

No. 1878. January 16, 1925. Secured in the Western Hills by Doctor Howath. This is a larger fruited variety than the one under No. 1019 [S. P. I. No. 62176].

63185. *MEDICAGO SATIVA* L. Fabaceae.
Alfalfa.

No. 1877. January 16, 1925. Collected in the Western Hills and presented by Doctor Howath.

63186 and 63187. *PHASEOLUS VULGARIS* L. Fabaceae.
Common bean.

63186. No. 1856. *Hsun Pien Tou* (greenhouse bean). This variety is planted in October in greenhouse beds under cucumbers and matures in 80 to 90 days. It is used chiefly to boil with pork.

63187. No. 1857. January 13, 1925. *Mer Tou* (white bean). A pole bean cooked with meat.

63155 to 63203—Continued.

63188 and 63189. *PISUM SATIVUM* L. Fabaceae.
Pea.

63188. No. 1845. *Hei Wau Tou Miao* (black pea sprouts). Planted in the early spring and summer. It is ground into flour and made into cakes and boiled and fried when green either with or without meat.

63189. No. 1846. *Pai Wau Tou Miao* (white pea sprouts). This variety is planted in early spring and summer, and when green it is boiled with sauce and meats.

63190 to 63197. *RAPHANUS SATIVUS* L. Brassicaceae.
Radish.

63190. No. 1818. *Ta Hung P'ao Luo Pu* (big red-robed radish). The Chinese recommend planting this variety in July and August, and the crop is supposed to be ready for market in September and October. Used chiefly for boiling with meat and making into soup.

63191. No. 1819. This variety is planted in July and August and harvested in September and October. It is eaten as a fresh vegetable, cooked with meat, and used in soup.

63192. No. 1820. *Hsiang Ya Pai Luo Pu* (white elephant-tusk radish). Planted in May and June; matures in about 60 days. Used mostly for making soup.

63193. No. 1821. *Hsiao Hung Shiu Luo Pu* (small red water radish). It is usually peeled and eaten raw with pickles and is seldom cooked.

63194. No. 1823. *Hung Hsiu Ts'ui Luo Pu* (red-hearted fragile radish). Planted in July and August and harvested in September and October. It is stored before selling. Eaten raw.

63195. No. 1824. *Tze Tsui Luo Pu* (purple fragile radish). Planted in July and August and harvested in September.

63196. No. 1825. *Pien Luo Pu* (changing radish). Planted in July and August and harvested in September and October. Used only for soup, which is made with mutton, chopped coriander, and this radish.

63197. No. 1838. *Hung Ts'ui Luo Pu* (red fragile radish). Planted in July and August and harvested in September and October. It is eaten fresh.

63198. *SOJA MAX (L.) PIPER (Glycine hispida Maxim.)*. Fabaceae. Soy bean.

No. 1875. January 16, 1925. Collected in Manchuria by Dr. A. A. Howath.

63199 and 63200. *SOLANUM MELONGENA* L. Solanaceae.
Eggplant.

63199. No. 1859. A round variety planted in early spring and later transplanted, and which fruits throughout the season. It is boiled with meat, fried in oil with it, and also used to make pickles.

63200. No. 1861. *Pai Chang Chieh Tzu* (white long eggplant). Planted in the early spring and later transplanted. Used boiled and fried in sesame oil.

63155 to 63203—Continued.

63201. *SPINACIA OLERACEA* L. Chenopodiaceae. Spinach.

No. 1826. Used in the following ways—as greens, in soups, and chopped up and fried with pork.

63202 and 63203. *VIGNA SESQUIPEDALIS* (L.) Fruwirth. Fabaceae. Yard Long bean.

63202. No. 1858. *Huang Hua Ching Chiang Tou* (yellow-flowered cowpea). Planted in May, June, and July and harvested in 60 to 70 days. The bean pods are chopped up when green and cooked with meat, or they are boiled and eaten with a vinegar soy sauce.

63203. No. 1866. *Ssu Kua Ching Chiang Tou* (green-threaded gourd cowpea). Planted in May and June. The green pods are chopped into small pieces and cooked with meat.

63204 to 63291.

From Echo, Manchuria, China. Seeds presented by A. D. Woelkoff, director, experimental farm. Received March 23, 1925.

63204 to 63208. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceae. Adzuki bean.

63204 and 63205. *Li hsiao tou*, a dark variety.

63204. No. 306. 63205. No. 307.

63206. No. 309. *Pai hsiao tou*, a white variety.

63207 and 63208. *Hung hsiao tou*, a red variety.

63207. No. 310. 63208. No. 316.

63209 to 63211. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

63209 and 63210. *Lu tou*.

63209. No. 317. 63210. No. 326.

63211. No. 327. *Huang lu tou*.

63212 to 63291. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

63212. No. 254. *Hsiao li er huang tou tsa*, a small, yellow variety.

63213 and 63214. *Hsiao li er fang tou tsa*.

63213. No. 255. 63214. No. 256.

63215. No. 257. *Hsiao huang tou tsa*, a small, yellow type.

63216 and 63217. *Hsiao ch'in huang tou tsa*, a golden variety.

63216. No. 258. 63217. No. 262.

63218. No. 264. *Ta li hua huang tou tsa*.

63219. No. 265. *Ta ch'in mi huang tou tsa*.

63220. No. 266. *Hua lia tou tsa*.

63221 to 63229. *Huang tou tsa*.

63221. No. 267. A yellow type.

63222. No. 272. This and the following variety [S. P. I. No. 63223] are yellow with black hilums.

63204 to 63291—Continued.

63223. No. 273.

63224. No. 275. A variety with a broad hilum.

63225. No. 276. A type with a black hilum.

63226. No. 278. This and the following type [S. P. I. No. 63227] have brown hilums.

63227. No. 279.

63228. No. 280. This and the following variety [S. P. I. No. 63229] have smooth hilums.

63229. No. 281.

63230 to 63232. *Hei tou*. The hilums of these three varieties are black.

63230. No. 282.

63231. No. 284.

63232. No. 286.

63233 to 63235. *Chong tou*. These three varieties have green hilums.

63233. No. 287.

63234. No. 288.

63235. No. 290.

63236. No. 291. *Jao li er huang tou tsa*.

63237. No. 294. *Ssu lui hwa*.

63238. No. 295. *Shao hei mi*.

63239. No. 296. *Feng tien pai mi*.

63240. No. 297. *Kunchuling pai mi*.

63241. No. 298. *Wan hsiang hei mi*.

63242. No. 299. *Scui pink haipo hei hua*.

63243. No. 301. A brown variety.

63244. No. 303. This and the following variety [S. P. I. No. 63245] are yellow with brown hilums.

63245. No. 304.

63246. No. 1146. *Vanta*.

63247. No. 1150. This is a yellow type.

63248. No. 1151. Brown variety.

63249. No. 1152. A green variety.

63250. No. 1153. A light yellow variety.

63251. No. 1155. A green variety with a dark hilum.

63252. No. 1157. A green variety with a light hilum.

63253. No. 1158. A brown variety.

63254. No. 1160. A yellow variety.

63255. No. 1161. A green variety with a dark hilum.

63256. No. 1162. Shining black, round type.

63257. No. 1163. A light-green variety with a dark hilum.

63258. No. 1164. A black variety.

63259. No. 1169. A black variety.

63260. No. 1170. Green with darker side.

63261. No. 1171. A greenish brown variety.

63204 to 63291—Continued.

63262. No. 1172. A small black variety.
 63263. No. 1173. A black variety.
 63264. No. 1174. A small greenish brown variety.
 63265. No. 1175. Greenish brown variety.
 63266. No. 1177. Brownish yellow with a darker side.
 63267. No. 1180. Brown variety.
 63268. No. 1181. Lighter in color than No. 1180 [S. P. I. No. 63267].
 63269. No. 1183. Black variety.
 63270. No. 1185. Brown variety.
 63271. No. 1187. Greenish brown type.
 63272. No. 1189. Light-brown variety.
 63273. No. 1191. Brown variety.
 63274. No. 1193. Light-brown variety.
 63275. No. 1194. Brown variety.
 63276. No. 1195. Grayish black variety.
 63277. No. 1196. Brown variety.
 63278. No. 1200. Small, black variety.
 63279. No. 1203. Very small, brown variety.
 63280. No. 1205. Very small, greenish brown variety.
 63281. No. 1208. Brown variety.
 63282. No. 1209. Green variety with a black hilum.
 63283. No. 1213. Brown variety.
 63284. No. 1215. Black variety.
 63285. No. 1216. Black variety with a light hilum.
 63286. No. 1217. Black variety.
 63287. No. 1218. Brown variety.
 63288. No. 1221. Greenish yellow variety.
 63289. No. 1223. Yellow variety.
 63290. No. 1224. A green variety with a dark hilum.
 63291. No. 1228. A greenish yellow variety.

63292 to 63323.

From Chihli, China. Scions and cuttings collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 31, 1925. Notes by Mr. Dorsett.

63292 to 63294. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

63292. No. 2105. Wanwu, near Chiuchou, which is a big deciduous fruit section, located in a large valley near Peking. February 13, 1925. *Hung Ying Tsui T'ao* (red eagle bill peach). The large fruits, 3 to 4 inches in diameter, ripen in June and are said to be of very good quality.

63293. No. 2106. Chiuchou. February 13, 1925. *Pai Ying Tsui T'ao* (white eagle bill peach). The fruits

63292 to 63323—Continued.

are about 3 to 4 inches in diameter and have white flesh. This variety ripens about 10 days later than No. 2105 [S. P. I. No. 63292].

63294. No. 2148. Wanwu, near Chiuchou. February 14, 1925. *K'uai Ta T'ieh T'ao* (early large-leaved peach). A white peach, 3 to 4 inches in diameter, which ripens the middle of August.

63295. *AMYGDALUS PERSICA PLATYCARPA* (Decaisne) Ricker (*Prunus persica platycarpa* Bailey). Amygdalaceae. Flat peach.

No. 2107. Chiuchou. February 13, 1925. *Ho Shang Mao T'ao* (priest-hat peach). Ripens the end of July, becoming light green, and is 2 to 3 inches in diameter.

63296 to 63300. *MALUS* spp. Malaceae. Apple.

63296. *MALUS* sp.

No. 2112. Chiuchou. February 13, 1925. *Chu Sha Hung Sha Kuo* (cinabar-red crab apple). The red fruits are 1 to 1½ inches in diameter and ripen the middle of July. The trees from which these scions came are said to be about 50 years old.

63297. *MALUS* sp.

No. 2113. Chiuchou. February 13, 1925. *Chang Pa Sha Kuo* (long handle crab apple). The light red fruits, 1 to 1½ inches in diameter, ripen late in July, and these scions are from a tree about 50 years old.

63298. *MALUS* sp.

No. 2119. Chiuchou. February 13, 1925. A variety called *Hung Ping Kuo* (red apple) by Mr. Fa. It is about 3 inches in diameter and is light green with a pink or red blush; ripens in September.

63299. *MALUS* sp.

No. 2134. Chiuchou. February 14, 1925. *Mo Pau Sha Kuo* (grindstone crab apple). A variety said to be 1½ to 2 inches in diameter and half red and half green when ripe, which is at the end of August.

63300. *MALUS* sp.

No. 2142. Chiuchou. February 14, 1925. *Hsiang Yo Pai Sha Kuo* (white elephant tusk crab apple). Fruits about 2 inches in diameter, white with a slight pink blush; ripens the early part of August. Secured from Chai Yu Chen's orchard.

63301. *MORUS ALBA* L. Moraceae. White mulberry.

No. 2111. Chiuchou. February 13, 1925. Cuttings of *K'uai Pai Sanggen* (early white mulberry), secured from Mr. Fa. The fruits are about an inch in diameter and ripen in June.

63302. *POPULUS* sp. Salicaceae. Poplar.

No. 2183. Wanchuang. A rather round-headed poplar quite common here. The bark is rough and dark gray on the trunk and main branches.

63303 to 63314. *PRUNUS* spp. Amygdalaceae.

63292 to 63323—Continued.

63303 to 63308. *PRUNUS ARMENIACA* L.
Apricot.

63303. No. 2114. Chiuchou. February 13, 1925. A variety which Mr. Fa says is *Ping Kuo Pai Sha Kuo* (apple white apricot). The fruits, half red and half white with white flesh, ripen in July and are $1\frac{1}{2}$ inches in diameter.

63304. No. 2130. Chiuchou. February 14, 1925. *Hsiao Pai Hsing* (small white apricot), $1\frac{1}{2}$ to 2 inches in diameter, which ripens in June, becoming white or light green.

63305. No. 2135. Chiuchou. February 14, 1925. *Mai Huang Hsing* (straw yellow apricot). The fruits are reported to be 1 to $1\frac{1}{2}$ inches in diameter and ripen in June, becoming white and yellow.

63306. No. 2138. Chiuchou. February 14, 1925. *Hung Lao Yieh Lien Hsing* (red god-faced apricot). The red fruits, 2 to 3 inches in diameter, ripen in July.

63307. No. 2140. Chiuchou. February 14, 1925. *Cha Hua Pa Ta Hsing* (flower rod apricot). The clingstone fruits, $1\frac{1}{2}$ inches in diameter, ripen in early July. They are white and blushed with pink.

63308. No. 2146. Chiuchou. February 14, 1925. *Mien Pa Ta Hsing* (soft rod apricot). The fruits, $1\frac{1}{2}$ inches in diameter, ripen in early August, becoming yellow.

63309 to 63311. *PRUNUS TOMENTOSA* Thunb.
Manchu cherry.

63309. No. 2104. Chiuchou. February 13, 1925. *Hung Shan Tou Ying T'ao* (red bush cherry) presented by Wang Chieh Ting. The fruits are of average size and ripen the middle of June.

63310. No. 2141. February 14, 1925. *Pai Shan Tou Ying T'ao* (white bush cherry) from Liukuanying village. The average-sized fruits ripen the end of May or early in June.

63311. No. 2147. Chiuchou. February 14, 1925. *Hung Shan Tou Ying T'ao* (red bush cherry), of average size, which ripens about the middle of June.

63312 to 63314. *PRUNUS* spp. Plum.63312. *PRUNUS* sp.

No. 2103. Chiuchou. February 13, 1925. *Hung Li Tze* (red plum), secured in Mr. Ting's orchard. The fruits are reported to be $1\frac{1}{2}$ inches in diameter, to ripen in June, and to be of good quality.

63313. *PRUNUS* sp.

No. 2108. Chiuchou. February 13, 1925. *Niu Hsin Hung Li Tze* (ox-heart red plum). This variety is $1\frac{1}{2}$ to 2 inches in diameter, ripens the end of August, and is a purple red.

63314. *PRUNUS* sp.

No. 2131. Chiuchou. February 14, 1925. *Chiu Ken Li Tze* (autumn plum). The red fruits are said to be 1 to $1\frac{1}{2}$ inches in diameter; ripen the end of August.

63292 to 63323—Continued.

63315 to 63319. *PYRUS* spp. Malaceae.
Pear.63315. *PYRUS* sp.

No. 2115. Chiuchou. February 13, 1925. *Ya Kuang Li* (broad duck pear), secured from Mr. Wang's orchard. A large, dark-yellow, irregular pear, 3 to 4 inches in diameter, which ripens in early October.

63316. *PYRUS* sp.

No. 2115-a. Chiuchou. February 13, 1925. *Ya Kuang Li* (broad duck pear), secured from Mr. Wang's orchard. A large, dark-yellow, irregular pear, 3 to 4 inches in diameter, which ripens in early October. The same pear as No. 2115 [S. P. I. No. 63315], but from a different tree.

63317. *PYRUS* sp.

No. 2117. Chiuchou. February 13, 1925. This variety is called *Suan Li* (sour pear) by Mr. Fa. It is yellow, about 2 inches in diameter, and ripens the end of August.

63318. *PYRUS* sp.

No. 2118. Chiuchou. February 13, 1925. *Chiu Feng Tze Li* (golden lantern pear). The fruits are yellow blushed with pink and are 2 to 3 inches in diameter; ripen the end of August.

63319. *PYRUS* sp.

No. 2150. En route from Chiuchou to the village of Liuyuan. February 15, 1925. *T'ieh Li* (iron pear). The fruits are yellow, $1\frac{1}{2}$ to 2 inches in diameter, and ripen in September.

63320 and 63321. *SALIX* spp. Salicaceae.
Willow.63320. *SALIX* sp.

No. 2153. Liuyuan. February 15, 1925. *Ch'a Tze Liu* (fork willow). From this tree the Chinese make their 3-tined pitchforks by selecting properly placed branches and then steaming the cut branches to bend to the desired shape.

63321. *SALIX* sp.

No. 2154. Wangming. February 15, 1925. *Ch'ing Pi Lui* (green-skinned basket willow).

63322 and 63323. *ZIZIPHUS JUJUBA* Mill.
(*Z. sativa* Gaertn.). Rhamnaceae.
Jujube.

63322. No. 2120. Chiuchou. February 13, 1925. *P'ao Tsao* (inflated jujube). The mahogany fruits, about three-fourths by 1 to sometimes $1\frac{1}{4}$ inches long, ripen the middle of September.

63323. No. 2151. Liuyuan. February 15, 1925. *Wu Ho Tsao* (seedless jujube). Secured from Liu Tai Ho. The tree has a spread of about 20 feet, and 2 feet above the ground it measured 29 inches in circumference. It is reported to be 60 years old. The fruits are mahogany brown and about three-fourths of an inch in diameter and 1 to $1\frac{1}{4}$ inches in length.

63324 to 63327. PISUM SATIVUM L.
Fabaceae. Pea.

From Horens, Denmark. Seeds purchased from Ostergaard Frowel. Received March 30, 1925.

Danish pea varieties.

63324. No. 1288. 63326. No. 1332.

63325. No. 1313. 63327. [No data.]

63328 to 63390.

From Nogent sur Vernisson, Loiret, France. Seeds presented by M. L. Pardé, directeur de l'Arboretum National des Barres, at the request of David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 11, 1925. Notes by Doctor Fairchild.

63329. ABIES KOREANA Wilson. Pinaceae.
Fir.

A newly discovered fir from Chosen which is described by E. H. Wilson (Journal of the Arnold Arboretum, vol. 1: 188) as a tree 30 to 50 feet high, with a trunk 4 to 10 feet in circumference, and characterized by its pyramidal habit and deeply fissured rough bark. It is an alpine species, growing abundantly above 3,000 feet in Chosen. It is densely branched, and the lustrous-green leaves with white undersurfaces make the tree very striking.

63329. ABIES NUMIDICA De Lannoy. Pinaceae.
Algerian fir.

Variety *glauca*. A small tree from Algeria which fruits abundantly at Nogent sur Vernisson in central France. Its wood is similar in all respects to that of the common European silver fir, and it may thrive in Arizona and California.

63330. ACANTHOPANAX TRIPOLIATUM (L.) C. Schneid. (A. *aculeatum* Seem.).
Araliaceae.

A hardy, spiny, climbing shrub, native to western China, with slender-stemmed, 3-parted, light-green leaves and compound terminal umbels of small, greenish flowers followed by small, black berries.

63331. ACER DIABOLICUM Blume. Aceraceae.
Maple.

A Japanese maple 10 meters in height. The yellow flowers appear in April before the leaves, which are pubescent beneath and five lobed.

63332. AMPELOPSIS BREVIDUNCULATA (Maxim.) Koehne. Vitaceae.

A handsome strong-growing vine, native to eastern Asia, which is particularly attractive in autumn with its clusters of deep-blue berries; it is well adapted for covering trellises and low walls.

63333. AMPELOPSIS MEGALOPHYLLA Diels and Gilg. Vitaceae.

A vigorous, hardy, very interesting vine, becoming 20 to 30 feet in length, with long-stemmed, deeply lobed leaves often more than 3 feet in diameter. The bluish black fruits are in loose cymes. This species is native to western Hupeh, China, where it grows at an altitude of about 4,000 feet.

For previous introduction, see S. P. I. No. 58647.

63328 to 63390—Continued.

63334. AMPELOPSIS ORIENTALIS (Lamr.) Planch. Vitaceae.

The bright-green, finely cut foliage and dark-purple fruits of this Asiatic vine make it an attractive ornamental for the southern portions of the United States.

63335 to 63340. BERBERIS spp. Berberidaceae.
Barberry.

63335. BERBERIS GAGNEPAINI C. Schneid.

An evergreen Chinese shrub 3 to 6 feet high, with leathery leaves, spiny on the margins, and delicate yellow flowers on red pedicels. The ellipsoid berries are dark purple.

For previous introduction, see S. P. I. No. 58138.

63336. BERBERIS JULIANAE C. Schneid.

A shrubby barberry, up to 7 feet high, native to western China. It has thick, 3-cleft spines about 1½ inches long, narrowly oval leathery leaves, and small, yellow flowers.

For previous introduction, see S. P. I. No. 58108.

63337. BERBERIS PRUNOSA Franch.

A robust evergreen shrub, probably 10 feet or more in height, native to southwestern China. Its leaves are of leathery texture, up to 2½ inches long, lustrous green above, often grayish beneath, not unlike in general appearance those of the Himalayan *Berberis aristata*. It gets its name from the rich pruinose (plum-colored) bloom which covers the fruits.

For previous introduction, see S. P. I. No. 48015.

63338. BERBERIS SARGENTIANA C. Schneid.

A black-berried barberry from western Hupeh, China, reaching a height of 7 feet. According to Dr. C. S. Sargent, it is the only evergreen barberry which has proved entirely hardy at the Arnold Arboretum, Jamaica Plain, Mass.

63339. BERBERIS TOLUACENSIS Hort.

A barberry of unknown origin, allied to *Berberis aquifolium*. The five to seven leaflets are bright shining green, very narrow, and spiny toothed.

63340. BERBERIS VERNAE C. Schneid.

A low shrub, native to Kansu, China, producing spatulate leaves in small fascicles and small yellow flowers which are followed by round, red berries one-fourth of an inch in diameter.

For previous introduction, see S. P. I. No. 58125.

63341. BERCHEMIA RACEMOSA Sieb. and Zucc. Rhamnaceae.

A tall Japanese shrub producing a great abundance of small berries which pass from green through red to black as they ripen. Mr. Mottet recommends it for trellises and old walls and to cover the stumps of old trees.

63328 to 63390—Continued.

63342. *BETULA MAXIMOWICZIANA* Regel
(*B. maximowiczii* Regel, not Rupr.).
Betulaceae. Birch.

Mr. Mottet remarks that this is without doubt the most beautiful of all the birches, characterized by the rapidity of its growth, the luxuriance of its foliage, and the yellow color of its bark. I saw a specimen at Kew and think it is one of the handsomest birches I have seen.

63343. *BUDDLEIA PANICULATA* Wall. Loganiaceae. Butterfly bush.

An Indian shrub, 6 to 15 feet high, with hairy branches and leaves and rather dense panicles of lilac-colored flowers. Probably best suited for the warmer parts of the United States.

63344. *CARAGANA BOISI* C. Schneid. Fabaceae.

A handsome bush 10 to 12 feet high, with long, arching branches, native to Szechwan and eastern Tibet, China. In May the light-green foliage and numerous yellow flowers make this an especially attractive ornamental.

For previous introduction, see S. P. I. No. 56808.

63345. *CARPINUS BETULUS* L. Betulaceae. European hornbeam.

Var. *carpinizza*. A wild, Hungarian variety of the common European hornbeam, differing from the type in having its leaves more heart-shaped.

63346. *CARPINUS TURCHANINOVII* OVALIFOLIA Winkler. Betulaceae. Hornbeam.

A shrubby tree, native to northern China, and said to resemble closely *Carpinus polyneura*. The latter is a handsome, hardy tree of elegant habit, with dark-green, sharply toothed leaves and fruit clusters up to 2 inches in length.

63347. *CELASTRUS DEPENDENS* Wall. Celastraceae. Bittersweet.

A climbing shrub, native to the warmer portions of the Himalayas at altitudes of 1,000 to 4,000 feet. The membranous leaves are very variable in shape, and the yellowish green flowers are in terminal, pendulous panicles. An oil used in India for illuminative purposes is expressed from the seeds.

63348. *CELASTRUS FLAGELLARIS* Rupr. Celastraceae. Korean bittersweet.

A shrubby Chinese vine, quite hardy, with persistent spiny stipules, small oval leaves, and small axillary fruits with crimson arils.

63349. *CELASTRUS ROSTHORNIANA* Loesener. Celastraceae.

A Chinese plant described (Plantae Wilsonianae, vol. 2, pt. 2) as a climbing shrub 15 to 20 feet high, with thick, shining leaves, greenish white flowers, and orange-yellow fruits. It is fairly common in western Szechwan, China.

63350. *CELTIS TOURNEFORTHII* Lam. Ulmaceae. Oriental hackberry.

A tree about 20 feet high, or sometimes only a shrub, with oval, sharp-pointed bluish green leaves 3 inches long or less and small, reddish yellow fruits. It is native to Asia Minor and is probably not hardy north of Washington, D. C.

63328 to 63390—Continued.

63351. \times *CLEMATIS GLOBULOSA* Hort. Ranunculaceae.

A hybrid of *Clematis douglasii* Scottii and *C. texensis*, with deep-purple, pitcher-shaped flowers. Both of the parents of this European hybrid are native to the western United States.

63352. *CLEMATIS INTEGRIFOLIA* L. Ranunculaceae.

Var. *hybrida velleda*. An erect, herbaceous clematis, becoming 3 feet high, with broad, entire, oval leaves and solitary nodding blue flowers.

63353. *CLEMATIS TANGUTICA* (Maxim.) Korsh. Ranunculaceae. Clematis.

The handsomest yellow-flowered Clematis in cultivation, the largest flowers being about 4 inches across. The species reaches a height of 8 to 10 feet and bears gray-green leaves and solitary rich-yellow flowers, with long, slender-pointed sepals, downy outside and at the edges. Native to northern and western China.

63354. *CORYLUS TIBETICA* Batal. Betulaceae. Hazelnut.

This remarkable species, with spiny involucre somewhat resembling the burs of a chestnut, was introduced into the Vilmorin Fruticetum from Kansu, China, in 1885. It is in flower and there are many catkins now (middle of January) on the shrub. It hybridizes freely with the other species here in the Fruticetum and may prove of distinct value for breeding purposes, but the nuts are too small to be of commercial importance.

63355. *EUONYMUS BUNGEANUS* SEMIPER-SISTENS (Rehder) C. Schneid. Celastraceae.

A large glabrous shrub or small tree, from 3 to 5 meters high, with bright-green, half-evergreen leaves of a bluish or grayish hue. The yellowish white flowers appear in loose, 3 to 7 flowered cymes, and the few fruits are bright pink. This variety differs from the typical species in having leaves which remain on the plant until midwinter.

63356. *EUONYMUS SANGUINEUS* Loes. Celastraceae.

The dull-green, serrate leaves and large, pink fruits of this hardy Chinese shrub or small tree make it an attractive ornamental for the northern United States.

63357. *EVODIA HUPEHENSIS* Dode. Rutaceae.

A very common tree in the woodlands of western Hupeh, China, according to E. H. Wilson (Plantae Wilsonianae, vol. 2, pt. 1), where it grows to a height of 20 to 40 feet. It has smooth, gray bark, spreading branches, and white flowers in large flat corymbs.

63358. *FRAXINUS MARIESII* Hook. f. Oleaceae. Ash.

A handsome, free-flowering shrubby Chinese ash which has narrowly oval leaflets with yellowish green lower surfaces. It blooms even when quite young; the upright panicles are about 5 inches long.

63328 to 63390—Continued.

63359. *GENISTA AETNENSIS* (Bivona) DC.
Fabaceae. Aetna broom.

An attractive shrub, 6 feet or less in height, with nearly leafless, slender branches, and fragrant, yellow flowers in loose terminal racemes. Native to Sicily and Sardinia.

63360. *KRAUNHIA JAPONICA* (Sieb. and Zucc.) Taub. (*Wisteria japonica* Sieb. and Zucc.). Fabaceae. Wisteria.

A comparatively little-known wisteria from Japan, which is hardy only in the Southern States. It is a deciduous climber with slender twining stems and bright, glossy green compound leaves. The white flowers are probably the smallest of all the wisterias, and are produced in very slender, many-flowered racemes up to a foot in length.

63361. *LONICERA SIMILIS DELAVAYI* (Franch.) Rehder. Caprifoliaceae.
Delavay honeysuckle.

A half-evergreen, shrubby climber, closely allied to *Lonicera japonica*, which was first found by the Abbé Delavay in the mountains of Yunnan, China. The oval leaves are gray felted beneath, and the sweet-scented, yellow flowers are in pairs in the axils of the leaves.

63362. *MAGNOLIA SALICIFOLIA* (Sieb. and Zucc.) Maxim. Magnoliaceae.
Anise magnolia.

A Japanese magnolia which is a slender tree about 20 feet in height, with narrowly oval, yellowish green leaves 3 to 6 inches long and short-stemmed white flowers 5 inches across. It is hardy at least as far north as southern Massachusetts.

63363. *PHILADELPHUS MAGDALENÆ* Koehne. Hydrangeaceae. Mock orange.

A bushy mock orange from Szechwan, China, which becomes about 6 feet high, with finely toothed, narrow leaves and white flowers an inch in diameter, borne in early June in few-flowered racemes.

63364. *PLATYCARYA STROBILACEA* Sieb. and Zucc. Juglandaceae.

M. V. 5852. A small, striking Chinese tree which at this time (January) is covered with pretty, brown conelike fruits somewhat resembling miniature fruits of the teasel. This is hardier than the other species, *P. strobilacea*.

63365. *PYRACANTHA GIBBSII* A. Jackson. Malaceae. Firethorn.

A fine ornamental evergreen bush, vigorous and hardy, native to Hupeh and Szechwan, China. It becomes 12 to 14 feet high, is nearly spineless, and in the autumn bears large clusters of scarlet berries which contrast admirably with the glossy dark-green foliage.

For previous introduction, see S. P. I. No. 56694.

63366. *RHAMNUS UTILIS* Decaisne. Rhamnaceae. Buckthorn.

A hardy, shrubby tree of ornamental appearance, with light-green, opposite leaves. Native to central and eastern China.

63367 to 63376. *ROSA* spp. Rosaceae.
Rose.

63328 to 63390—Continued.

63367 and 63368. *ROSA MACROPHYLLA* Lindl.

This Himalayan rose is described by Brandis (Forest Flora of India, p. 203) as an erect, often unarmed shrub, with large, red flowers 2 inches or less in width, and large, soft edible fruits an inch long. In its native home this rose is found at an altitude of 10,000 feet, and plants introduced into England have proved hardy in that country.

63367. Typical form.

63368. Var. *inermis*.

63369. *ROSA MOYESII* Hemsl.

A strikingly handsome, wild rose with flowers varying from dark blood-red to light pink. It is a shrub up to 10 feet high, native to western China, with scattered, short, straight prickles on the branches. The deep orange-red, narrowly ovoid fruits are 2 inches or more in length.

63370. *ROSA OMEIENSIS PTERACANTHA* (Franch.) Rehd. and Wils.

A robust, much-branched thorny bush, native to western China, where it grows at altitudes of 3,000 to 11,000 feet. Because of the fine single white flowers, the large, red prickles, and the bright-red fruits this is an exceedingly attractive rose.

63371. *ROSA PERSETOSA* Rolfe.

A pink-flowered rose from western China which is characterized by Dr. Alfred Rehder (Arnold Arboretum, Jamaica Plain, Mass.) as an upright shrub with densely bristly stems and flowers an inch across, produced in large panicles.

63372 to 63376. *ROSA SERICEA* Lindl.

An erect shrubby rose, up to 12 feet in height, with prickly branches and solitary white flowers, 2 inches wide, with usually only four petals. Native to the Himalayas, and perhaps hardy only in the Southern States.

63372. Typical form.

63373. M. V. 4001.

63374. M. V. 4620.

63375. M. V. 4710.

63376. Var. *xanthocarpa*.

63377. *SAMBUCUS JAVANICA* Reinw. Caprifoliaceae. Elder.

An East Indian elder, 6 feet or less in height, with long-pointed leaflets and flat clusters of ovoid, red berries.

63378. *SCHIZONOTUS AITCHISONI* (Hemsl.) Skeels. Rosaceae.

A shrub 2 to 3 meters high from Afghanistan, with straight, reddish branches which are strong and compact panicles of white flowers which bloom in September.

63379. *SKIMMIA FORTUNEI* Masters. Rutaceae.

A very pretty, spring-flowering shrub from China, with persistent foliage. The very fragrant, white flowers are borne in panicles; these are succeeded by deep-red, oval fruits which remain all winter here in France.

63328 to 63390—Continued.

63380. *SKIMMIA INTERMEDIA* Carr. Rutaceae.

A low, evergreen Japanese shrub, with entire, aromatic leaves, terminal panicles of rosy flowers, and attractive scarlet fruits.

63381. *SKIMMIA JAPONICA VEITCHII* (Carr.) Rehder. Rutaceae.

A Japanese shrub, 5 feet or more in height, with yellowish green leaves crowded at the ends of the branchlets and coral-red or bright-scarlet fruits about a third of an inch in diameter. It is said to be one of the best smoke-enduring evergreen shrubs, but is too tender to withstand the winters in the northern United States.

63382. *SOPHORA DAVIDII* (Franch.) Komarow (*S. viciifolia* Hance). Fabaceae.

A Chinese species 2 meters high of light and graceful habit, bearing clusters of white and blue flowers. This shrub appears to do well in limestone soil.

63383 and 63384. *STYRAX* spp. Styracaceae. Snowbell.

The styraxes are handsome shrubs of graceful, usually loose habit with numerous white, mostly fragrant, flowers. Several species are hardy as far north as southern Massachusetts.

63383. *STYRAX* sp.

M. V. 1901.

63384. *STYRAX* sp.

M. V. 5241.

63385. *SYRINGA VELUTINA* Komarow. Oleaceae. Lilac.

A charming shrub with pale-pink, deliciously fragrant flowers. In height it ranges from 4 to 8 feet. It is native to Chosen and is quite hardy.

63386 and 63387. *VIBURNUM* spp. Caprifoliaceae.

The viburnums are woody plants, many of which are valuable ornamentals because of their white or pinkish flowers and berrylike, red, blue, or black fruits.

63386. *VIBURNUM* sp.

M. V. 6870.

63387. *VIBURNUM* sp.

M. V. 7373.

63388. *VITIS COIGNETIAE* Pulliat. Vitaceae. Grape.

A Japanese species characterized by the very large leaves which turn purple-red in the autumn. This is a striking species for trellises.

63389. *VITIS FLEXUOSA* Thunb. Vitaceae. Grape.

A slender-stemmed, Chinese vine, with oval, heart-shaped leaves and very small fruits. Its chief value appears to lie in the dark-purple autumnal color of its foliage.

63390. *VITIS TITANEA* Hort. Vitaceae. Grape.

A vigorous Japanese climber with dark-green leaves and small, black fruits.

63391. *ANANAS SATIVUS* Schult. f. Bromeliaceae. Pineapple.

From Wusi, Kenya Colony, Africa. Slips collected by H. L. Shantz, Bureau of Plant Industry. Received May 7, 1924. Numbered January, 1925.

No. 98. February 20, 1924. An exceptionally good, small pineapple, grown in the Burra Hills. The climate of this portion of Africa is not especially hot, and this variety is regarded as the best for this region. (Shantz.)

63392 to 63400.

From Paris, France. Purchased from Vilmorin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 19, 1925. Notes by Doctor Fairchild.

63392. *CLEMATIS ARMANDI* Franch. Ranunculaceae. Armand clematis.

A species from Hupeh, China, bearing fragrant, white flowers, which has shown itself remarkably hardy here and which is characterized by the abundance and the persistence of its foliage.

63393. *CLEMATIS CIRRHOSA* L. Ranunculaceae.

A very attractive, climbing clematis from southwestern Asia, which bears, in spring, nodding, bell-shaped, white flowers over an inch across. It is tender to much frost and is therefore suited only for growing in the southern United States.

63394. *CLEMATIS SPOONERI* Rehd. and Wils. Ranunculaceae.

A most attractive species introduced in 1905 from China, bearing an abundance of large, white blossoms, some of which measure 9 centimeters in diameter.

63395. *COLUMNEA GLORIOSA* Sprague. Gesneriaceae.

Var. *superba*. A perennial epiphyte, indigenous to Costa Rica, with handsome scarlet and yellow flowers, produced singly in the axils of the leaves. It is tropical in its requirements.

63396. *× COLUMNEA VEDRARIENSIS* Hort. Gesneriaceae.

A new hybrid between *Columnea magnifica* and *C. schiediana* recommended by Mr. Mottet. (Vilmorin.)

The parents of this hybrid are tropical American, herbaceous plants with scarlet and yellow flowers.

63397. *× COLUMNEA VILMORINIANA* Hort. Gesneriaceae.

A new hybrid between *Columnea vedrariensis* and *C. gloriosa superba*, shown before the "Société Nationale d'Horticulture de France" on January 22, 1924, when it was awarded a certificate of merit.

It requires the same treatment as its parents and is very ornamental by reason of the intense red coloring of both flowers and leaves and its thickset, erect habit. (Vilmorin.)

63398. *DIOSCOREA* sp. Dioscoreaceae. Yam.

A variety of the Chinese yam. Through selection a tuber has been made to mature which does not penetrate so deeply into the soil as the original variety received from China. It is therefore worth testing as far north as Washington.

63392 to 63400—Continued.

63399. *HELIANTHUS TUBEROSUS* L. Asteraceae. Jerusalem artichoke.

This is said to be a most unusually vigorous strain of the common Jerusalem artichoke, producing long, fusiform tubers instead of the round, irregular ones.

63400. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. Six-rowed barley.

A new variety of 6-rowed barley with silky awns which should make it a distinct advantage in harvesting.

63401. *VIBURNUM SARGENTI* Koehne. Caprifoliaceae.

From Elstree, Herts, England. Seeds presented by Vicary Gibbs, Aldenham House Gardens. Received February 20, 1925.

Although similar to the Highbush cranberry (*Viburnum americanum*) of North America, this handsome, hardy shrub from northern China is more upright and denser in habit. The leaves are thick, pubescent beneath, and the sterile flowers are about $1\frac{1}{4}$ inches across. The round scarlet berries are usually in upright clusters.

63402 and 63403.

From Paris, France. Purchased from Vil-morin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 19, 1925. Notes by Doctor Fairchild.

63402. *SCHIZANDRA RUBRIFLORA* (Franch.) Rehd. and Wils. Magnoliaceae.

One of Wilson's Szechwan species which is hardy here. The red flowers appear when the shrub is quite young. Should be introduced as a climbing shrub for trellises, etc.

63403. *SCHIZOPHRAGMA INTEGRIFOLIA* Oliver. Hydrangeaceae.

A climbing shrub, closely related to the hydrangeas, native to rocky places in central China. It reaches about 15 feet in height, and has broadly oval, bright-green leaves about 5 inches long. The inflorescence consists of loose terminal clusters of small, white flowers, with large and showy sterile flowers at the margins of these clusters. This shrub is hardy as far north as southern Massachusetts.

For previous introduction, see S. P. I. No. 62280.

63404 to 63408.

From Algeria. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 21, 1925. Notes by Doctor Fairchild.

63404. *ARUNDO PLINII* Turra. Poaceae.

Cuttings. It is this species of *Arundo*, and not *Arundo donax*, which is so much used for windbreaks and all sorts of shading mats by the vegetable growers of the Algerian coast. It is very different in habit from *A. donax*, having upright leaves instead of pendent ones, and, being smaller, is therefore useful for a wider variety of purposes.

63405. *BETA VULGARIS* L. Chenopodiaceae. Beet.

Cape Matifou. February 27, 1925. Var. *maritima*. Plants collected by Doctor Trabut and myself. A form occurring on the headlands of the African

63404 to 63408—Continued.

coast, with exceedingly thick, fleshy, brittle leaves. This should furnish the start for the production of a fleshy leaved variety of beet for use as a pot-herb.

63406. *CASIMIROA EDULIS* Llave. Rutaceae. White sapote.

Cuttings of an Algerian strain.

63407. *DIOSPYROS SINENSIS* Hemsl. Diospyraceae.

Cuttings of a species which I believe is the one Frank Meyer found south of Shanghai years ago and of which we lost the material. He found that it was being used there as a stock for *Diospyros kaki* and the trunk, below the graft, had white bark. Trees of this species are growing at Fondouk, Algeria; these originally came from the Jardin d'Essais du Hamma many years ago.

63408. *EUONYMUS* sp. Celastraceae.

Cuttings of an extremely dwarf species used as a border for flower beds in the same way as box is used, to separate the beds from the gravel walk.

63409. *VITIS VINIFERA* L. Vitaceae. European grape.

From Algiers, Algeria. Cuttings presented by Dr. L. Trabut. Received February 14, 1925.

An unnamed Algerian variety.

63410 to 63426.

From Paris, France. Purchased from Vil-morin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 19, 1925. Notes by Doctor Fairchild.

63410. *IRIS FOETIDISSIMA* L. Iridaceae.

Seeds of a rank-growing iris which I saw only in fruit. The deep-green leaves attracted my attention, and its red berries, Doctor Trabut says, constitute its chief attraction.

63411. *MORUS KAGAYAMAE* Koidzumi. Moraceae. Mulberry.

A handsome Japanese mulberry which thrives in Algeria. The leaves are readily eaten by silkworms.

63412. *ORCHIS ROBERTIANA* Loisel. Orchidaceae.

Plants from the Hamez Barrage near Algiers, where it occurs wild. A tall orchid with rather attractive greenish purple flowers, over half an inch across. According to Doctor Trabut this terrestrial orchid is easily grown in good garden soil and will persist for many years if once transplanted. When grown in good soil it will grow to a height of several feet.

63413. *OREOPANAX EPREMESNILIANUM* Andre. Araliaceae.

Cuttings from a tree in the Botanic Gardens of Mustapha which is an object of striking beauty. This is a shade tree of tropical American origin, having large, palmate leaves of a shining dark green.

63414. *PAPAYER ATLANTICUM* Ball. Papaveraceae. Poppy.

Seeds of a perennial poppy, 1 to 2 feet high, covered throughout with copious hairs. The orange-red or scarlet flowers are 2 to 3 inches wide.

63410 to 63426—Continued.

63415. *PAPAVER SETIGERUM* DC. *Papaveraceae*. **Poppy.**

Forma *atropurpurea*. Seeds of a violet-flowered, annual poppy, closely related to the opium poppy (*Papaver somniferum* L.). Native to the Mediterranean region.

63416. *PELARGONIUM LATERIPES* L'Herit. *Geraniaceae*.

A beautiful strain of a handsome running species of the so-called "Geranium." It is used in Algiers to cover the retaining walls of the roadways.

63417. *PELARGONIUM PELTATUM* (L.) Ait. *Geraniaceae*.

Cuttings of a variety used in the same way as S. P. I. No. 63416, but having larger leaves and more conspicuous brilliant pink flowers; probably a very good form for window-box use.

63418. *PHOENIX CANARIENSIS* × *RECLINATA*. *Phoenicaceae*. **Palm.**

Seeds of one of the finest specimens in Arthurs Garden, Algiers. This very graceful palm, which is much more attractive than the type *Phoenix canariensis*, should be substituted for it in California.

63419. *POPULUS EUPHRATICA* Oliver. *Salicaceae*. **Poplar.**

Var. *mauretanica*. Cuttings of what is probably a very ancient variety from the wet regions along the Euphrates in Mesopotamia. This form has interesting foliage, and, because of its ability to grow in the wet lands along irrigation ditches, where the soil is often saline from seepage, may be useful for similar regions in the United States.

63420. *POPULUS THEVESTINA* Dode. *Salicaceae*. **Poplar.**

Cuttings of one of the most brilliant, white-barked species of poplars I have ever seen. It grows to a fair size and resembles in its fastigate form the Italian poplar. Doctor Trabut remarks that it is less affected by a species of borer which attacks the Italian poplar and is altogether superior to that species as a tree for parks.

63421. *POPULUS TOMENTOSA* Carr. *Salicaceae*. **Chinese white poplar.**

Cuttings of a handsome species growing in the Jardin d'Essais at Maison Carree, Algiers. It is of upright growth, with widespreading branches, brilliant white bark, and large leaves.

63422. *PRUNUS MUME* Sieb. and Zucc. *Amygdalaceae*. **Japanese apricot.**

Scions of a very handsome Japanese flowering apricot, with semidouble deep-pink flowers, growing in a garden at Fonduk. I have never seen a more floriferous or prettier variety than this and surmise it may be quite new to our collection.

63423. *ROSA* sp. *Rosaceae*. **Rose.**

Madame Tellier. Seeds of a beautiful, very vigorous variety from the garden of Doctor Trabut at Mustapha Supérieure. The flowers are salmon pink, and the fruits are unusually large and fleshy.

63410 to 63426—Continued.

63424. *RUMEX SANGUINEUS* L. *Polygonaceae*.

Cuttings of a tall shrub which Doctor Trabut informs me is used in Sicily and the Canaries for hedge purposes. The leaves are sour like those of *Rumex acetosella*.

63425. *RUMEX TUBEROSUS* L. *Polygonaceae*.

Plants of a variety from Blida, Algeria, presented by Professor Maire, of the University of Algiers. This is a vigorous grower with elongated leaves which are used in the preparation of a sorrel soup, as are those of the true "oseille," *Rumex acetosa*. It is more resistant to frost than the ordinary oseille.

63426. *SCHINUS TEREBINTHIFOLIUS* Raddi. *Anacardiaceae*. **Brazilian pepper tree.**

Scions from a selected tree.

63427. *LECYTHIS ZABUCAJO* Aubl. *Lecythidaceae*. **Sapucaia nut.**

From Cartagena, Colombia. Seeds obtained through Lester L. Schnare, American consul. Received March 30, 1925.

Like the Brazil nut, the sapucaia is native to the Amazon Valley and adjacent regions, whence it is occasionally exported. Apparently it has never formed the basis of a considerable industry, as has the Brazil nut. By many people it is considered of even better flavor and quality than the latter.

The somewhat triangular nuts are over 2 inches long and about an inch wide. They are borne in large, woody, urn-shaped capsules, about 6 inches in diameter, with close-fitting lids at the top.

It seems unlikely that this tree will succeed in the United States, but it ought to do so in the Canal Zone, Porto Rico, Hawaii, and elsewhere in the Tropics. It seems never to have received much horticultural attention. Perhaps this is because of its slow growth and the long time required for trees to reach bearing age.

63428. *ALSTONIA CONSTRICTA* F. Muell. *Apocynaceae*.

From Sydney, New South Wales. Seeds presented by the director, Botanic Garden. Received March 30, 1925.

A tall shrub or tree, native to southeastern Australia, which is said to be of possible value as a source of rubber.

63429 and 63430. *JUGLANS REGIA* L. *Juglandaceae*. **Persian walnut.**

From Srinagar, Kashmir, India. Seeds presented by R. K. Koul, proprietor, Koul's Gardens. Received March 30, 1925.

Walnuts have been cultivated since remote times in the hilly portions of India, and in Kashmir especially the industry has been highly developed. These seeds are from superior varieties which grow at an altitude of about 5,500 feet, in a region where mild winters and warm, but not hot, summers prevail.

63429. *Burzil*. 63430. *Kaghzi*.

For previous introduction, see S. P. I. No. 58629.

63431 to 63476.

From China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March, 1925. Notes by Mr. Dorsett.

From the orchard area along the northern foothills near Huailai, about 1,800 feet above sea level.

63431 to 63433. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

63431. No. 1986. Tunghoshankou, near Huailai. February 3, 1925. *Kang Tze Tao* (jar peach). Scions of a small, red peach, 1 to 2 inches in diameter. Ripens during August, becoming creamy white with a pink blush.

63432. No. 2027. Tsanfengying, near Huailai. February 5, 1925. Scions of the *Lo Yieh Pai Tao* (white-leaved peach). The fruits are 2 to 3 inches in diameter, becoming white when ripe, which is during August.

63433. No. 2028. Tsanfengying, near Huailai. February 5, 1925. Scions of the *Yiu Tao* (silver peach). The fruits are white with a pink blush, 3 to 4 inches in diameter, and ripen early in September.

63434. *AVENA NUDA* Hoefer. Poaceae. Naked oats.

No. 1949 Huailai. February 2, 1925. Known here as "oil wheat." Huailai is located in a broad valley, along the northern foothills, at an altitude of about 1,600 feet, which appears to be very well watered.

63435. *CANNABIS SATIVA* L. Moraceae. Hemp.

No. 1957. Huailai. February 2, 1925. Seeds.

63436. *FAGOPYRUM VULGARE* Hill (*F. esculentum* Moench.). Polygonaceae. Buckwheat.

No. 1955. Huailai. February 2, 1925. Seeds.

63437. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

No. 1953. Huailai. February 2, 1925. Seeds of a red sorghum.

63438 to 63448. *MALUS* spp. Malaceae. Apple.

63438. *MALUS* sp.

No. 1969. Shih tungtzu, near Huailai. February 3, 1925. Scions of an apple about 2 inches in diameter, which ripens in early September, becoming green and red.

63439. *MALUS* sp.

No. 1970. Shih tungtzu, near Huailai. February 3, 1925. Scions of a good-sized, red winter apple reported by the Chinese to be very good, but we found it soft and sweet and of only fair quality.

63440. *MALUS* sp.

No. 1971. Shih tungtzu, near Huailai. February 3, 1925. Scions of a winter apple, greenish with a red blush which sometimes extends over the fruit sufficiently to justify calling it red.

63431 to 63476—Continued.

63441. *MALUS* sp.

No. 1991. Tunghoshankou, near Huailai. February 3, 1925. Scions of an apple, 3 to 4 inches in diameter, which varies from pink to bright red and ripens in early September.

63442. *MALUS* sp.

No. 1993. Tunghoshankou, near Huailai. February 3, 1925. Scions of a fragrant apple, 2½ to 3 inches in diameter, which ripens during August, becoming green and red.

63443. *MALUS* sp.

No. 1996. Tunghoshankou, near Huailai. February 3, 1925. Scions of what the Chinese call *Sha Kuo Li* (crab-apple pear). The fruits, 1 to 2 inches in diameter, are similar to a pear when ripe, being light yellow with a pink blush. They ripen early in September.

63444. *MALUS* sp.

No. 1997. Tunghoshankou, near Huailai. February 3, 1925. Scions of an apple about 2 inches in diameter which ripens during September, being covered with large green and red spots. The flesh is acid in flavor.

63445. *MALUS* sp.

No. 1999. Tunghoshankou, near Huailai. February 3, 1925. Scions of a fragrant white apple, 2 to 3 inches in diameter, which ripens in August.

63446. *MALUS* sp.

No. 2008. Tung Hua Ssu temple, near Huailai. February 4, 1925. Scions of *Ping Kuo Tao* (peach apple). The fruits, 3 to 4 inches in diameter, have the shape of an apple but the flavor of a peach. They ripen in September.

63447. *MALUS* sp.

No. 2022. Tsanfengying, near Huailai. February 5, 1925. Scions of the *Pa Leng Hai Tang* (Polygon crab apple). The red fruits, 1 to 1½ inches in diameter, ripen in September.

63448. *MALUS* sp.

No. 2029. Tsanfengying, near Huailai. February 5, 1925. Scions of an apple, white with a pink blush, which ripens in September.

63449. *NICOTIANA TABACUM* L. Solanaceae. Tobacco.

No. 1975. February 3, 1925. Seeds of a large-leaved Chinese tobacco growing on the northern side of the White River, west of Huailai.

63450. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceae. Adzuki bean.

No. 1950. Huailai. February 2, 1925. Seeds of a small white bean.

63451. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

No. 1946. Huailai. February 2, 1925. Seeds of a green bean.

63452 and 63453. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.

63452. No. 1951. Huailai. February 2, 1925. Seeds of a yellow garden bean.

63431 to 63476—Continued.

63453. No. 1952. Huailai. February 2, 1925. Seeds of a white garden bean.

63454. *POPULUS* sp. Salicaceae. Poplar.

No. 2019. Tung Hua Ssu temple, near Huailai. February 4, 1925. Cuttings of a small-leaved poplar which was growing along waterways in the deciduous-fruit growing region of the foothills.

63455 to 63457. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

63455. No. 2013. Tunghoshankou, near Huailai. February 4, 1925. Scions of the *Shui Hsing* (winter apricot). The yellow freestone fruits, 1½ to 2 inches in diameter, ripen in June.

63456. No. 2026. Tsanfengyung, near Huailai. February 5, 1925. Scions of a fragrant freestone apricot, 2 inches in diameter, which ripens about the middle of June, becoming light cream colored with a pink blush.

63457. No. 2030. Tsanfengyung, near Huailai. February 5, 1925. Scions of the *Chin Kang Chuan Hsing* (Buddha's hand apricot). A yellow clingstone, about 2 inches in diameter, which ripens in July. The kernel is quite sweet.

63458 to 63461. *PRUNUS* spp. Amygdalaceae. Plum.

63458. *PRUNUS* sp.

No. 1976. Tunghoshankou, near Huailai. February 3, 1925. Scions of the *Huang Niu Hsiu Li Tze* (yellow ox-heart plum). The fruits are said to be 1 to 1½ inches in diameter and about 2 inches long.

63459. *PRUNUS* sp.

No. 1976a. These scions are from a different tree than No. 1976 [S. P. I. No. 63458].

63460. *PRUNUS* sp.

No. 1988. Tunghoshankou, near Huailai. February 3, 1925. Scions of the *Niu Hsin Hung Li Tze* (red ox-heart plum). The dark-red fruits are 1 to 2 inches in diameter with yellow flesh, ripening during June and July.

63461. *PRUNUS* sp.

No. 2012. Tunghoshankou, near Huailai. February 4, 1925. Scions of the *Ting Pi Hung Li Tze* (red-topped plum). The yellow-fleshed fruits ripen during August and are 1 to 1½ inches in diameter.

63462 to 63466. *PYRUS* spp. Malaceae. Pear.

63462. *PYRUS* sp.

No. 1978. Tsanfengyung, near Huailai. February 3, 1925. Scions of the *Hung Hsiao Li* (red sour pear). The yellow fruits, 2 to 2½ inches in diameter, ripen in September.

63463. *PYRUS* sp.

No. 1980. Tunghoshankou, near Huailai. February 3, 1925. Scions of the *Chin Pa Hsiang Li* (fragrant golden handle pear). Sometimes called "cold" pear. The yellow fruits, 3 or more inches in diameter, ripen in September.

63431 to 63476—Continued.

63464. *PYRUS* sp.

No. 1908a.

63465. *PYRUS* sp.

No. 2025. Tsanfengyung, near Huailai. February 5, 1925. Scions of the *Yuan Ping Li* (round pear). The fruits, yellow with a pink blush, are 2 to 3 inches in diameter, ripening during September.

63466. *PYRUS* sp.

No. 2033. Tsanfengyung, near Huailai. February 5, 1925. Scions of the *Tieh Li* (iron pear) or *Suan Li* (sour pear). The fruit is 1½ to 2 inches in diameter and is yellow when ripe, but has to be kept a considerable length of time before it is ready to eat.

63467. *ROSA* sp. Rosaceae. Rose.

No. 2037. Peking. February 10, 1925. Cuttings of a very attractive double, bright-red rose, about 2 inches in diameter, presented by Prof. W. E. Chamberlain, head of the Department of Agriculture of the Peking University. This rose appears to be quite hardy and does not bear many thorns. It is evidently a climber and blooms continuously from August until frost.

63468 and 63469. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

63468. No. 1947. Huailai. February 2, 1925. Seeds of a yellow variety.

63469. No. 1948. Huailai. February 2, 1925. Seeds of a black variety.

63470. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 1945. Huailai. February 2, 1925. Seeds of Chinese spring wheat.

63471. *VICIA FABA* L. Fabaceae. Broad bean.

No. 1954. Huailai. February 2, 1925. *Tsan Tou* (silkworm bean). Seeds of an English broad bean.

63472. *VIGNA SESQUIPEDALIS* (L.) Frurth. Fabaceae. Yard Long bean.

No. 1960. Huailai. February 2, 1925. Seeds of a rather long and fairly broad bean which is yellow with longitudinal streaks.

63473 to 63475. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

63473. No. 1956. Huailai. February 2, 1925. Seeds of a pink or red cowpea.

63474. No. 1961. Huailai. February 2, 1925. Seeds of a cowpea mottled brown and cream colored.

63475. No. 1962. Huailai. February 2, 1925. Seeds of a yellow cowpea with a white or slightly brownish eye.

63476. *ZIZIPHUS JUJUBA* Mill. (*Z. sativa* Gaertn.). Rhamnaceae. Jujube.

No. 2023. Tsanfengyung, near Huailai. February 5, 1925. Scions of the *Chia Tsao* (home jujube). The fruits are said to be 1 to 1½ inches in diameter and 22 inches long.

63477. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

From Orleans, Loiret, France. Seeds presented by Edmond Versin, St. Jean le Blanc. Received March 27, 1925.

A new winter-wheat selection; not yet named nor in the trade. The heads are large and well filled; the yield is very large and the quality excellent. It is rust resistant and does not lodge; it is sown in October or November, maturing in July. (*Versin.*)

63478. TRIFOLIUM PRATENSE L. Faba-ceae. Red clover.

From Chalonnès sur Loire, France. Seeds presented by E. Jouffray. Received February 6, 1925.

Locally grown seeds.

63479 to 63483.

From Algeria. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received March 30, 1925. Notes by Doctor Fairchild.

63479. IRIS ALATA Poir. Iridaceae. Scorpion iris.

Plants of a dwarf iris growing in the dry, stiff, clay soils west of Aumale, Algeria, at an altitude of 2,500 feet. The rhizomes are located several inches below the surface, and in the autumn the plant sends up beautiful blue flowers. The leaves look like grass and are spread out in a kind of rosette.

63480. NARCISSUS BULBOCODIUM MONOPHYLLUS (Dur.) Baker. Amaryllidaceae.

A delicate, white-flowered plant, closely related to the narcissus but more delicate than any narcissus I ever saw. It is fragrant but less so than some other narcissus. The slender scape rises above the rocky ground to a height of not over 8 inches. In the summer it must be exposed to the blazing subtropical sun and get thoroughly dried out, for it occurs on the mountain tops in the edge of the Sahara near the Oasis of Bou Saada.

63481. POPULUS THEVESTINA Dode. Salicaceae. Poplar.

Cuttings of a strictly fastigate, brilliantly white-barked desert poplar. As I saw this tree it seemed to me that I had never seen any poplar so delicate in outline or so ghostlike in its white coloring. As a landscape tree for the irrigated regions of California it should prove to be a great addition.

63482. ROMULEA BULBOCODIUM (L.) Sebast. and Mauri. Iridaceae.

Bulbs. As we drove from Aumale to the Oasis of Bou Saada we observed the Arab boys and women digging up the tiny corms of this plant and tying them into bundles. We found these corms good to eat and quite sweet. The baked clay soils of this region are peppered with the little rosettes made by the slender grasslike leaves.

63483. SCILLA PERUVIANA L. Liliaceae. Squill.

Bulbs. On the baked clay steppes of the region east of Aumale we found that

63479 to 63483—Continued.

the rosettes of this interesting species were common.

A blue-flowered, bulbous plant resembling the hyacinth in habit.

63484 to 63486.

From Srinagar, Kashmir, India. Seeds presented by R. K. Koul, proprietor, Koul's Gardens. Received March 30, 1925. Notes by Mr. Koul.

63484. BRASSICA OLERACEA CAULO-RAPA DC. Brassicaceae. Kohl-rabi.

The *Knol-khol* is indigenous to Kashmir and was cultivated there long before America was discovered. The appearance is somewhat rough and the skin hard, but it is a most delicious vegetable, and I consider it far superior to the American kind imported into the Old World. The Kashmir varieties known as *Munjées*, 2 to 8 pounds in weight, are rare, being cultivated at only a few places in the valley. Besides being eaten as an ordinary vegetable, they make splendid pickles.

63485. BRASSICA OLERACEA VIRIDIS L. Brassicaceae. Kale.

The Kashmir sag (*Karmi Hakh*) is between 12 and 18 inches long and is indigenous to Kashmir. When the leaves are from 4 to 5 inches long and five to six in number each leaf is picked and collected in bundles of 10 to 12 each. The pickings, which take place every now and then during the season, are from the side shoots and not from the stem, which is kept intact. There are two ways of preparing this vegetable: First, the leaves when well examined and washed are slightly fried in oil or butter and then a sufficient quantity of water, salt, and condiments added, and the leaves are boiled until soft; second, the leaves are first boiled and then fried and spiced. This vegetable is very delicious and is peculiar only to Kashmir.

63486. RAPHANUS SATIVUS L. Brassicaceae. Radish.

The Mirpur radishes are large, between 12 and 18 inches long and from 1 to 4 pounds in weight, and are famous throughout northern India. They are eaten raw after being cut into small slices, are very delicious, and are better than any other table radish. They may also be cooked as an ordinary vegetable or used for pickling.

63487 to 63489.

From Medellín, Colombia. Seeds presented by Camilo C. Restrepo. Received March 7, 1925. Notes by Señor Restrepo.

63487. CHLORIS sp. Poaceae. Grass.

Splendid for permanent pastures; originally from Australia.

63488. ECHINOCHLOA sp. Poaceae. Grass.

Janeiro grass. A good grass for arid land.

63489. JUGLANS sp. Juglandaceae. Walnut.

An unidentified species.

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ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

June 6, 1927

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This inventory is a contribution from

<i>Bureau of Plant Industry</i>	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Office of Foreign Plant Introduction</i>	DAVID FAIRCHILD, <i>Senior Agricultural Explorer in Charge</i> .

UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 83



Washington, D. C.

Issued September, 1927

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1925 (NOS. 63490 TO 64428)

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INTRODUCTORY STATEMENT

For the second quarter of 1925, the period represented by this inventory, the general situation in respect to foreign agricultural explorations agrees rather closely with the period represented by the preceding inventory, No. 82. Doctor Fairchild was in Algeria and Morocco, Mr. Dorsett spent most of the time in the Province of Chihli, northern China, and Mr. McClure continued his work in the Province of Kwangtung, southeastern China.

Among the plant material obtained by Doctor Fairchild in Algeria were scions of three varieties of loquats (*Eriobotrya japonica*, Nos. 63557 to 63559). These were grown at the governor general's garden at Mustapha and are said to be superior types. From Dr. L. Trabut, also at Mustapha, Doctor Fairchild obtained seeds of a hybrid eucalypt (*Eucalyptus trabuti*, No. 63581). This was discovered by Doctor Trabut in the botanic gardens in Mustapha and is said to be an unusually rapid grower.

Mr. Dorsett's collections include an interesting series of native Chinese melon varieties (*Cucumis melo*, Nos. 63702 to 63713), six native cabbagelike vegetables (*Brassica* spp., Nos. 63910 to 63915), and many local types of beans, peas, wheat, and barley, obtained largely from the native markets in the villages of Chihli Province.

In 1925, according to the Yearbook of the Department of Agriculture for that year, about 25,000 acres were devoted to the growing of green peas in the United States. In order to assist horticulturists in extending this area by breeding disease-resistant strains and strains adapted to a variety of conditions, locally developed varieties were introduced from Germany, France, Sweden, England, and New South Wales.

One of the best date varieties grown in Lower Egypt is said to be the Samany (*Phoenix dactylifera*, No. 63975), offshoots of which have been obtained from the Egyptian Ministry of Agriculture. Date culture in the southwestern portion of the United States is progressing steadily, and Old World varieties are being sought which will be best adapted for growing in the different sections.

An Australian tree from the semiarid interior of New South Wales should be of interest for growing in the drier regions of the Southwest. This is the wilga (*Geijera parviflora*, No. 64000), a low tree resembling the weeping willow. The leaves of this drought-resistant tree are fed to cattle in New South Wales.

A collection of *Crotalarias* (Nos. 64058 to 64065) and one of *Crotalarias* and *Sesbans* (Nos. 64066 to 64070), the former from South Africa and the latter from Egypt, will be tested in the Southern States as cover plants and as forage.

Through the courtesy of Em. Miége, Chief of the Service de l'Expérimentation Agricole of Morocco, seeds have been obtained of a noteworthy cotton variety (*Gossypium* spp., Nos. 64002 and 64003). This variety is called "Sarsar," from the name of the tribe which has grown it from time immemorial in the interior of Morocco. Because of its unusual precocity, resistance to drought, and length and strength of fiber, comparable to that of the Yuma variety, it should be of interest to cotton breeders in this country.

Bureau specialists testing rubber-producing plants will be interested in the several introductions of *Landolphas* from tropical Africa, *Funtumia elastica* (No. 63786) from the Gold Coast Colony, Africa, and Ceara rubber (*Manihot glaziovii*, No. 63798), one of the important Brazilian rubber-producing plants.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND McKEE,

Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,

Washington, D. C., February 3, 1927.

INVENTORY¹

63490 to 63495. SOLANUM TUBEROSUM L. Solanaceae. Potato.

From Paris, France. Tubers purchased from Vilmorin-Andrieux & Co. Received May 6, 1925.

Locally developed varieties.

63490. *Chardon*.

63491. *Général Authaine*.

63492. *Institut de Beauvais*.

63493. *Maréchal Foch*.

63494. *Maréchal Joffre*.

63495. *Saucisse*.

63496. LILIUM CROCEUM Chaix. Lily. aceae. Lily.

From Stuttgart, Germany. Bulbs purchased from Wilhelm Pitzer. Received May 21, 1925.

Horticulturists engaged in lily-breeding experiments in the United States are endeavoring to obtain material of *Lilium bulbiferum*. This is said to be offered in the trade in Europe as *L. croceum*, the orange lily, and material of the latter is now being introduced for comparison tests.

63497. THUNBERGIA GRANDIFLORA Roxb. Acanthaceae.

From Kingston, Jamaica. Cuttings presented by W. S. Goodman, superintendent, Hope Gardens. Received May 2, 1925.

Variety *alba*. The typical form of *Thunbergia grandiflora* is well known in tropical gardens, where it is highly esteemed for its large, sky-blue flowers and the ornamental effect of its foliage. The white form (variety *alba*) is less widely cultivated, though perhaps as meritorious as the type. It is a strong-growing climber, useful for covering pergolas and fences, and is sufficiently frost resistant for cultivation in the warmer parts of Florida and the most favored sections of southern California. (Note by Wilson Popenoe under S. P. I. No. 57216.)

¹ It should be understood that the names of varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction, and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications, therefore, must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

63498 and 63499.

From Matania el Saff, Egypt. Seeds presented by Alfred Brucher, director, Middle Egypt Botanic Station. Received April 28, 1925.

63498. ONCOBA SPINOSA Forsk. Flacourtiaceae.

The discovery of chaulmoogric acid in the seeds of *Oncoba echinata* has prompted the testing of other species of the same genus for the presence of this acid, now used in the treatment of leprosy. *O. spinosa* is described (Flora of Tropical Africa, vol. 1, p. 115) as a spiny shrub with elliptic, membranous leaves and showy, fragrant, white flowers about 2 inches across. The round, hard-shelled fruit, 2 inches in diameter, is eaten by the natives of tropical Africa, where the shrub is indigenous. The shells are often used as ornaments.

63499. SCLEROCARYA BIRREA (A. Rich.) Hochst. Anacardiaceae.

A tropical African tree 25 to 50 feet tall, with leathery pinnate leaves and light-yellow round fruits about an inch in length. The sweet resinous flesh incloses a stony nut containing two to four seeds which have a flavor similar to that of walnuts and are a favorite food of the natives of Abyssinia.

63500 to 63521. DIOSPYROS KAKI L. f. Diospyraceae. Kaki.

From Nanking, China. Scions presented by M. Leslie Hancock, University of Nanking. Received April 1, 1925.

These scions are from our persimmon orchard here at the university; the material was received from many sources, and there are probably several duplications in the collection. (Hancock.)

63500. No. 6. 63505. No. 13.

63501. No. 7. 63506. No. 15.

63502. No. 10. 63507. No. 16.

63503. No. 11. 63508. No. 17.

63504. No. 12. 63509. No. 18.

63500 to 63521—Continued.

63510. No. 19.	63516. No. 28.
63511. No. 20.	63517. No. 29.
63512. No. 21.	63518. No. 31.
63513. No. 23.	63519. No. 32.
63514. No. 24.	63520. No. 33.
63515. No. 27.	63521. No. 34.

63522 to 63541. *HELIANTHUS TUBEROSUS* L. Asteraceae. Jerusalem artichoke.

From Paris, France. Tubers obtained from Vilmorin-Andrieux & Co., through D. N. Shoemaker, Bureau of Plant Industry. Received April 1, 1925.

Locally grown strains.

63522. No. 3/21.	63532. No. 21/23.
63523. No. 4/21.	63533. No. 26/23.
63524. No. 8/21.	63534. No. 27/23.
63525. No. 10/23.	63535. No. 29/23.
63526. No. 14/23.	63536. No. 30/23.
63527. No. 15/22.	63537. No. 33/23.
63528. No. 16/22.	63538. No. 35/23.
63529. No. 12/23.	63539. No. 38/23.
63530. No. 18/23.	63540. No. 43/23.
63531. No. 19/22.	63541. No. 45/23.

63542 to 63544. *SOLANUM TUBEROSUM* L. Solanaceae. Potato.

From Klein Wanzleben, Germany. Tubers presented by Dr. Phil. Oskar Rabbethge. Received April 2, 1925. Notes by Doctor Rabbethge.

European varieties, not in the American trade, introduced for potato-breeding experiments.

63542. Centifolia. A cross between Borcken and Flora, originated by the plant breeder Von Kameke. It is a red-skinned, white-fleshed table variety, and is very healthy. Season medium and yield large.

63543. Industry. A cross between Richter's Early and Simon, originated by the plant breeder Madow. It is grown on heavy soil. In western Germany it is the predominating yellow-fleshed table variety. It is a heavy yielder, matures late, but is susceptible to rot.

63544. Pepo. A cross between Deutsches Reich and Jubel, originated by the plant breeder Von Kameke. A light yellow-fleshed table variety, of very large yield. Resistant to rot and scarcely susceptible to fungous diseases; very resistant to wart disease. The lilac-colored flowers are inclined to vary.

63545. *TRIFOLIUM REPENS* L. Fabaceae. White clover.

From Edinburgh, Scotland. Plants presented by William Wright Smith, regius keeper, Edinburgh Botanic Garden. Received April 4, 1925.

Obtained from the Scottish Board of Agriculture. (Smith.)

Sent in response to a request for material of the brown-leaved strain of white clover; to be tested by clover specialists.

63546. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Fortuna, Porto Rico. Cuttings presented by I. Mutz, through E. W. Brandes, Bureau of Plant Industry. Received April 1, 1925.

H 109.

A locally developed strain.

63547 and 63548. *PISUM SATIVUM* L. Fabaceae. Pea.

From Valence sur Rhone, France. Seeds obtained from Tézier Frères. Received April 2, 1925.

Locally grown strains.

63547. Mange-tout violet.

63548. Serpette française. An improved form with long pods.

63549. *ELEOCHARIS TUBEROSA* (Roxb.) Schult. Cyperaceae.

From Canton, China. Tubers collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 3, 1925.

No. 29. *Ma tai, Hon ma tai.* A variety of ma tai which differs in its cultural methods from the ordinary variety in that the irrigation water is withdrawn some time before the crop is ripe. The harvesting method is affected profoundly because with the variety commonly grown around Canton the crop is searched for blindly by women standing knee deep in mud and water, but with this variety the harvesting is done with a hoe, resulting in much less expenditure of labor. The culture of ma tai is rather complicated in that the corms are put through two preliminary "plantings" before they finally reach the field in which they produce. At the end of June or early in July the corms are set thickly in a bed and barely covered with soil. They are kept moist, and when their sprouts are 6 or 7 centimeters long they are transplanted to a wet culture plot and set about 1 foot apart each way. When the sprouts are about 30 centimeters high they are again transplanted to a wet culture field, usually one from which the first rice crop has just been harvested, and this time set about 3 feet apart in rows 3 feet apart, and alternated so that each plant is equally distant from all of its adjacent neighbors. Henceforth they are irrigated much the same as rice. When the plants become established each is given a small handful of powdered bean or peanut cake. The irrigation is discontinued in October. (McClure.)

63550. *CITRUS AURANTIUM* L. Rutaceae. Sour orange.

From Algeria. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 6, 1925.

From the Jardin d'Essais, Maison Carree. To be tested by citrus growers as a rootstock in comparison with strains of the same species already growing in the United States.

63551. *ALPINIA* sp. Zinziberaceae.

From Kwangtung Province, China. Rhizomes collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 3, 1925.

63551—Continued.

No. 28. January 17, 1925. Obtained from the village of Taichong. *Wong keung*. This is an important crop in this region, one village having harvested this year 1,000 mau [approximately 2 acres]. The yield is from 30 to 50 piculs (3,570 to 5,950 pounds) of the fresh rhizomes per mau [about one-sixth acre]. When dried, in preparation for the market, the rhizomes shrink from 25 to 30 per cent. The rhizomes are planted during April, sandy soil being preferred, about 10 inches apart in rows 14 inches apart, of which two occupy each raised bed. The number of rhizomes planted on each mau varies between 3,000 to 5,000, depending upon the richness of the soil. (*McClure*.)

63552. *NERIUM OLEANDER* L. Apocynaceae. Oleander.

From Algeria. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 6, 1925.

Seeds from wild plants growing in the Oasis of Bou Saada. To be tested for resistance to scale infestation.

63553. *GOSSYPIUM HIRSUTUM* L. Malvaceae. Cotton.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co., through Walter T. Swingle, Bureau of Plant Industry. Received April 6, 1925.

Coton Yerli.

To be tested by cotton specialists.

63554 to 63560.

From Algeria. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 6, 1925. Notes by Doctor Fairchild.

63554. *BOUGAINVILLEA WARSEWICZII* Hort. Nyctaginaceae.

Cuttings of a horticultural variety of this gorgeous flowering climber. Instead of flowering feebly all through the season, this form bursts into bloom in the spring with a perfect mass of magenta flowers which completely hide the plant, and then it does not flower until the following spring.

63555 and 63556. *DIOSPYROS SINENSIS* Hemsl. Diospyraceae.

Trees grown from seed of fruits produced by a single tree in Galland Park, Algiers. Doctor Trabut says the fruits are especially fine, and Mrs. M. J. Melia, the wife of the head gardener of Galland Park, declares that they are finer flavored than any of the kaki she has eaten. I think this is the white-barked persimmon which Frank Meyer saw used as a stock for the kaki in Nanchow, south of Shanghai.

63555. Plants. 63556. Scions.

63557 to 63559. *ERIOBOTRYA JAPONICA* (Thunb.) Lindl. Malaceae. Loquat.

These scions are from the governor general's garden in Mustapha.

63557. Since this variety did not have a name, I called it "Governor General." The head gardener said that it produced very delicious fruits much larger than the Tanaka, but that they were not good for shipping.

63554 to 63560—Continued.

63558. This variety, which Doctor Trabut calls the "Tanaka" and which he says came direct from Japan, has elongated fruits. According to Doctor Trabut it is the best of all the varieties for shipping.

63559. *Tanaka Type Improved*. According to M. J. Melia, head gardener, Galland Park, Algiers, this is a seedling from Tanaka and is larger fruited but not so good a shipper.

63560. *FICUS NITIDA* Blume. Moraceae.

Cuttings of the broad-leaved type which has been found far superior as a street tree here. It is called "Camellia" by Doctor Trabut and "Laevigata" by Mr. Melia.

63561 to 63568. *PISUM SATIVUM* L. Fabaceae. Pea.

From Trier, Germany. Seeds obtained from J. Lambert & Son, through D. N. Shoemaker, Bureau of Plant Industry. Received April 7, 1925.

Locally developed strains.

63561. *Rival*.

63562. *Schalerbsen*.

63563. *Schweizer Riesen*.

63564. *Staatsminister Eyschen*.

63565. *Trierer Bristallzlas*.

63566. *Verbesserte Flämische Riesen*.

63567. *Vorbote* (Eclipse).

63568. *Yuni Schwert*.

63569 and 63570. *PISUM SATIVUM* L. Fabaceae. Pea.

From Göteborg, Sweden. Seeds obtained from Göteborgs Tradgardsforening, through D. N. Shoemaker, Bureau of Plant Industry. Received April 7, 1925.

Locally developed strains.

63569. *Såbe Svenske*.

63570. *Sockerart smor*.

63571. *FRAGARIA* sp. Rosaceae. Strawberry.

From Orleans, France. Plants purchased from Barbier & Co. Received April 9, 1925.

Eugene Transon. This dwarf variety, with very thick, short flower stems, bears bright red, superb fruits which are enormous, nearly as big as Mademoiselle Moutot, but of a more regular shape, resembling Docteur Morère. The firm, sweet, melting flesh is a rosy salmon and richly perfumed. This is a mid-early sort and especially noted for its early crop. (*Catalogue of Barbier & Co.*)

63572 to 63577. *PISUM SATIVUM* L. Fabaceae. Pea.

From Lyon, France. Seeds obtained from Leonard Lille, through D. N. Shoemaker, Bureau of Plant Industry. Received April 6, 1925.

Locally developed strains.

63572. *Du Chemin Long*, No. 10106.

63573. *Mangetout Beurra*, No. 10337.

63572 to 63577—Continued.

63574. *Nain de Gonthier ou de Paris*, No. 19988.

63575. *Nain Leveque*, No. 10150.

63576. *Petit Provençal*, No. 10091.

63577. *Serpette d'Auvergne à très longue cosse*, No. 9884.

63578 and 63579. *PISUM SATIVUM* L.
Fabaceae. Pea.

From Manchester, England. Seeds obtained from Dickson, Brown, & Tait, through D. N. Shoemaker, Bureau of Plant Industry. Received April 6, 1925.

Locally developed strains.

63578. *Centenary*.

63579. *St. Duthus*.

63580. *ARRACACIA XANTHOBBHIZA* Bancroft (*A. esculenta* DC.).
Apiaceae. Arracacha.

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, horticulturist, Porto Rico Agricultural Experiment Station. Received April 9, 1925.

The arracacha is a perennial herbaceous plant, closely related to the carrot and indigenous to the higher altitudes of northern South America. It grows about 3 feet high, with carrotlike foliage and small umbels of purple flowers. The large fleshy roots are important food in parts of South America and Central America; they are eaten boiled like parsnips or sliced raw and fried, and are said to be very palatable either way. Propagation is affected by making cuttings of the crown with a small piece of the root attached.

63581. *EUCALYPTUS TRABUTI* Vilm.
Myrtaceae.

From Mustapha, Algeria. Seeds collected by Dr. L. Trabut and presented through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 7, 1925.

Collected in the botanic gardens of the university, February 23, 1925. A remarkable hybrid between *Eucalyptus botryoides* Sm. (pistillate) and *E. rostrata* Schlecht (staminate) discovered by Doctor Trabut. The characters of the leaves are intermediate; the capsules could not well be more nearly intermediate. The great value of this hybrid is in its unusually rapid growth. (Fairchild.)

For previous introduction see S. P. I. No. 45769.

63582 and 63583.

From Amani, Tanganyika Territory, Africa. Seeds presented by A. H. Kirby, Director of Agriculture. Received April, 1925.

63582. *ALBIZZIA CHINENSIS* (Osbeck) Merr. (*A. stipulata* Boiv.). Mimosaceae.
No. 20.

A large, rapidly growing tree, native to the subtropical regions of eastern India. It is said by Watt (Dictionary of the Economic Products of India) to have been found very satisfactory in Assam as a shade tree for tea. The

63582 and 63583—Continued.

roots do not penetrate the soil deeply, and the foliage does not make a dense shade.

For previous introduction see S. P. I. No. 61480.

63583. *CHRYSOPHYLLUM MONOPYRENUM* Swartz. Sapotaceae. **Satin leaf.**
No. 236.

An ornamental West Indian tree, up to 35 feet high, with broad green leaves, rusty white beneath, small white flowers, and oblong blackish berries about an inch and a half long.

For previous introduction see S. P. I. No. 45107.

63584. *SYRINGA SWEGINZOWII* Koehne
and Ling. Oleaceae. Lilac.

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 16, 1925.

An attractive hardy lilac, about 10 feet high, from western China. The dark-green, oval leaves are 2 to 4 inches long, and the fragrant, rosy lilac flowers are borne during June in terminal panicles up to 10 inches in length.

63585. *TRIFOLIUM PRATENSE* L. Fabaceae. **Red clover.**

From Montlucon, Allier, France. Seeds obtained from G. & M. Peronnin, through A. J. Pieters, Bureau of Plant Industry. Received April 23, 1925.

A locally developed strain.

63586. *BOUEA OPPOSITIFOLIA* (Roxb.) Meissn. (*B. burmanica* Griffith).
Anacardiaceae. **Maprang.**

From Bangkok, Siam. Seeds presented by Dr. Yai S. Sanitwongse. Received May 16, 1925.

One of the wild relatives of the mango (*Mangifera indica*) is the maprang, an evergreen tree of moderate height, native to Burma and the Andaman Islands. The narrowly elliptic, pale-green, leathery leaves are opposite, and the small yellow flowers are produced in slender, lax, few-flowered panicles. There is considerable variation in the size and quality of the edible, yellow fruits. According to Doctor Sanitwongse, the trees grown in Burma and Indo-China bear only very small fruits which are very sour. In Siam, however, where the tree is cultivated in alluvial soil, with river irrigation, the fruits are large, light yellow, and have a flavor resembling that of a yellow plum or apricot. The hard, gray wood is said to be very durable. The tree may possibly be sufficiently hardy for growing in southern Florida.

For previous introduction see S. P. I. No. 55046.

63587. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae.

Soy bean.

From London, England. Seeds presented by Dr. J. L. North, curator, Royal Botanic Gardens. Received May 16, 1925.

Grown at Budapest, Hungary, from seed obtained in Siberia. (North.)

63588. JUGLANS sp. Juglandaceae.**Walnut.**

From Ibarra, Ecuador. Seeds presented by José Felix Tamayo. Received June 17, 1925.

The tocte is an Ecuadorian tree which closely resembles the black walnut, but the leaves are somewhat larger. The nuts are an inch and a half in diameter, with a very thick, bony shell and a kernel of mild, pleasant flavor. The wood is hard and fine grained. Although the nuts are very popular in parts of Ecuador, the tree is not cultivated, but grows wild around cultivated fields and dooryards.

63589 to 63599.

From Ayr, Scotland. Seeds purchased from McGill & Smith. Received April 7, 1925.

Locally grown seeds.

63589. ANTHYLLIS VULNERARIA L. Fabaceae. Kidney vetch.

63590 to 63595. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

63590. English broad leaved.

63591. English late flowering.

63592 and 63593. Harvested in Switzerland at an altitude of 3,000 feet. (McGill & Smith.)

63592. Mountain red clover No. 1.

63593. Mountain red clover No. 2.

63594. Welsh.

63595. Wild.

63596 to 63599. TRIFOLIUM REPENS L. Fabaceae. White clover.

63596. English giant.

63597. English.

63598. New Zealand.

63599. Wild.

63600. TRIFOLIUM REPENS L. Fabaceae.**White clover.**

From Edinburgh, Scotland. Seeds presented by William Wright Smith, regius keeper, Edinburgh Botanic Garden. Received April 6, 1925.

Mixed natural seed harvested at the Edinburgh Plant-Breeding Station in 1923 from a large number of plants of wild white clover which were originally taken from Orkney, Shetland, Caithness, and the north of Scotland. (Smith.)

Sent in response to a request for material of the brown-leaved strain of white clover.

63601. PASSIFLORA EDULIS Sims. Passifloraceae.**Purple granadilla.**

From Epping, New South Wales, Australia. Seeds presented by L. P. Rosén & Son. Received April 7, 1925.

Perfecta. An improved strain of the granadilla or passion fruit. (Rosén.)

63602 to 63604. COFFEA spp. Rubiaceae.**Coffee.**

From Mayaguez, Porto Rico. Seeds presented by T. B. McClelland, horticulturist, Porto Rico Agricultural Experiment Station. Received April 1, 1925.

63602 to 63604—Continued.**63602. COFFEA EXCELSA Cheval.**

According to the Philippine Review, vol. 9, p. 121, this coffee thrives from sea level to 700 meters, succeeds well on rather stiff clayey soils, and is the most resistant to blight and drought of any coffee. It might be grown with an annual rainfall of 48 inches. It is of strong vigorous growth and produces 1 kilogram of dried coffee from 7 to 8 kilograms of fresh berries. *Coffea excelsa* makes an excellent stock for other coffees. The first crop is obtained at the age of 4 to 5 years and a full crop at the age of 7 to 8 years.

For previous introduction see S. P. I. No. 57271.

63603. COFFEA LAURENTII Wildem. (C. robusta Hort.).

A white-flowered shrub, native to Belgian Congo, with oval dark-green leaves up to a foot in length and shortly elliptic 2-seeded fruits. The roundish seeds are sometimes nearly half an inch long.

For previous introduction see S. P. I. No. 57272.

63604. COFFEA sp.

Received as *Coffea dybowski*, for which a place of publication has not been found.

63605. INDIGOFERA ENDECAPHYLLA Jacq. Fabaceae.

From Peradeniya, Ceylon. Seeds presented by H. A. Deutrom, acting manager of the experiment station, at the request of F. A. Stockdale, Director of Agriculture. Received April 4, 1925.

An annual or biennial leguminous plant which has become popular as a cover plant in Ceylon, according to the Tropical Agriculturist (vol. 63, October, 1924). The trailing stems are 1 to 2 feet long, and the violet-purple flowers are in dense racemes.

63606. HELIANTHUS TUBEROSUS L. Asteraceae.**Jerusalem artichoke.**

From Montreal, Canada. Tubers obtained from the William Ewing Co. Received April 13, 1925.

Locally grown tubers.

63607 to 63609. PRUNUS ARMENIACA L. Amygdalaceae.**Apricot.**

From Yagakujo, Manchuria. Scions presented by Dr. R. Watanabe, director, Southern Manchurian Agricultural Experiment Station. Received April 15, 1925.

Manchurian varieties.

63607. Chin chou ta hsing.

63608. Erh hsing mei.

63609. Li tzu hsing.

63610 to 63617. SACCHARUM OFFICINARUM L. Poaceae.**Sugar cane.**

From Rio Piedras, Porto Rico. Cuttings presented by the Insular Experiment Station, through E. W. Brandes, Bureau of Plant Industry. Received April 15, 1925.

Locally developed strains.

63610 to 63617—Continued.

63610. <i>H. 109.</i>	63614. <i>P. R. 328.</i>
63611. <i>B. 11569.</i>	63615. <i>P. R. 492.</i>
63612. <i>P. R. 433.</i>	63616. <i>P. R. 543.</i>
63613. <i>P. R. 729.</i>	63617. <i>P. R. 558.</i>

63618 to 63621. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Fajardo, Porto Rico. Cuttings presented by the Fajardo Sugar Co., through E. W. Brandes, Bureau of Plant Industry. Received April 15, 1925.

Locally developed strains.

63618. <i>F. C. 462.</i>	63620. <i>F. C. 306.</i>
63619. <i>F. C. 86.</i>	63621. <i>F. C. 305.</i>

63622 to 63627.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 3, 1925. Notes by Mr. McClure.

63622. *CANARIUM PIMELA* Koen. Balsameaceae.

No. 53. Foh Tsun, Lohkongtang, Kwangtung. December 5, 1924. *U lam*. The fruits, black when ripe, exude a viscous, milky juice with a pungent flavor when the skin is broken. They are commonly eaten after having been scalded for a moment and flavored with soy sauce or sugar. In preparing them for the market the fruits are scalded, the seeds removed, and the flesh dried in the sun.

63623. *CELASTRUS HINDSII* Benth. Celastraceae.

No. 55. Honam Island. January 2, 1925. *Tsing kung t'ang*. A half-woody, slender vine, 2 to 4 meters long, growing wild on trees and shrubs in poor soil, chiefly granite clay. It is an attractive ornamental with bright reddish orange seeds which are exposed at maturity by the splitting of the pod into a three-pointed star.

63624. *DESMOS CHINENSIS* Lour. Annonaceae.

No. 57. Honam Island. January 2, 1925. *Ka ying chau*. A shrub, 1 to 2 meters high, growing wild in a shady place along the roadside in clay soil. The very fragrant, greenish yellow flowers are followed by curious clusters of attractive fruits which turn from yellow to red and are composed of many moniliform pods radiating from a short peduncle.

63625. *GLEDITSIA FERA* (Lour.) Merr. (*G. australis* Hemsl.). Caesalpiniaceae. Honey locust.

No. 59. *Tai ip ying*. A large tree growing wild on Honam Island, valuable as a lumber tree and as an ornamental.

63626. *ILEX ROTUNDA* Thunb. Aquifoliaceae.

No. 48. Honam Island. January 2, 1925. *Pak lan heung*. A small wild shrub, usually less than 1 meter high, with glossy foliage and attractive red fruits.

63627. *MUSSAENDA* sp. Rubiaceae.

No. 51. Honam Island. December, 1924. *Pak chi sin*. A wild ornamental vine with inconspicuous yellow flowers and conspicuous white bracts.

63628. *CALYCOPHYLLUM CANDIDISSIMUM* (Vahl) DC. Rubiaceae.

From Summit, Canal Zone. Seeds presented by Holger Johansen, Plant Introduction Garden. Received June 12, 1925.

A Central American timber tree known commercially as the degame is described by S. J. Record (Timbers of Tropical America, p. 547) as being 40 to 65 feet high, with a straight trunk free from limbs. The wood has the strength, toughness, and resilience of hickory and is used for making agricultural implements, tool handles, and similar articles.

63629 to 63650.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 3, 1925. Notes by Mr. McClure.

63629. *MYROXYLON SENTICOSUM* (Hance) Warb. (*Xylosma senticosum* Hance). Flacourtiaceae.

No. 50. Near Chukliu, Kwangtung. January 18, 1925. *Kai na lak*. A very ornamental and large shapely shrub or small tree, having dense glossy foliage and producing an abundance of small dark-red fruits which are borne in short-stemmed clusters along the branches.

63630. *PANDANUS* sp. Pandanaceae.

No. 43. Lam'tau Island, Hong Kong Colony. December, 1924. *Lo tau lak*. *Lak poh loh*. This plant is widely used by the Chinese as a hedge. The long ribbonlike leaves are stripped of their marginal and midrib hooks, rolled into "spools," dried, and used to weave a coarse matting, and in a few instances they are used for hats.

63631. *PSYCHOTRIA ELLIPTICA* Ker. Rubiaceae.

No. 54. Honam Island, Kwangtung. January 2, 1925. An attractive ornamental 1 to 6 meters high, growing wild in a ferruginous sandy clay loam and having large leaves and rather inconspicuous white flowers. The clusters of fruits are at first yellow, turning red in the autumn.

63632. *RAPHIOLEPIS INDICA* (L.) Lindl. Malaceae.

No. 49. Honam Island, Kwangtung. January 2, 1925. *Ch'un fa*. This very pretty little shrub, which was found wild, produces clusters of delicate pink flowers that are reminiscent of cherry blossoms, and berries which become red in the autumn.

63633. *SMILAX* sp. Smilacaceae. Smilax.

No. 56. From the wild near Fohtsuen, Kwangtung. December 5, 1924. *Ma kap*. A sturdy glossy-leaved vine bearing in the autumn an abundance of brilliant red berries in dense umbels. This fine ornamental seems to thrive equally well on any soil and grows naturally under very difficult conditions on starved clay soil in burned or cut-over places.

63634 and 63635. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

63634. No. 30. Kochau, Kwangtung. *Luk tau*. Compared with the other varieties, *luk tau* is very small and cylindrical, and, as its name suggests, it is dark green. It is harvested twice a year, June and September, and is used in many forms, the chief of which are flour and sprouts.

63629 to 63650—Continued.

63635. No. 31. From the vicinity of Shihung, on the West River, Kwangtung. *Shiuhing luk tau*. This variety is harvested twice yearly, June and September, and is used in the same ways as No. 30 [S. P. I. No. 63634].

63636 to 63642. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

63636. No. 32. Kochau, Kwangtung. *Tsing tau*. A small light-green bean which is harvested and used in the same ways as No. 30 [S. P. I. No. 63634].

63637. No. 35. Pakmiu, Heungshan district, Kwangtung. *Hak tau*. This variety, harvested during July, produces black seeds which are flatter and more elliptical than the other varieties. These seeds are used mostly as "hung tau" in boiled dishes.

63638. No. 36. From the vicinity of Shihung, on the West River, Kwangtung. *Shiuhing hak tau*. Harvested during June or July, and used the same as No. 35 [S. P. I. No. 63637].

63639. No. 37. Kochau, Kwangtung. *Tai u tau*. Harvested during June or July and used the same as No. 35 [S. P. I. No. 63637].

63640. No. 39. Kochau, Kwangtung. *Wong tau*, *Pak tau*. These beans are nearly globular and yellow, and are harvested twice annually, during June or July and September or October. They are used in making bean curd and for the oil contained in them, though in this region they are rarely ever used for the latter.

63641. No. 40. The Canton Christian College Agricultural Department Gardens. *Pak tau*, *Wong tau*. This white or yellowish white bean is harvested in June or July, and the chief uses are the making of bean curd and of a soy sauce or "pak yau."

63642. No. 41. Koiu, Kwangtung. *Pak tau*. These beans are whiter than No. 39 [S. P. I. No. 63640] and have a suggestion of an "eye" around the hilum. Harvesting and use the same as No. 39.

63643. STIZOLOBIUM DEERINGIANUM Bort. Fabaceae.

No. 43. Canton Christian College Farm. January 20, 1925. *Kau tsau tau*. This vine grows from 2 to 3 meters in length and is harvested once a year. The Chinese farmers around Tsinguen and Linchow soak the vines and beans in water and use them as fertilizer, but the method used at the college is to plow them under as green manure. This variety makes a very heavy growth and is considered a valuable crop for the purpose of fertilizing.

63644 and 63645. TERMINALIA CHEBULA Retz. Combretaceae.

63644. No. 44. Kongtau village, Loh-kongtung, Kwangtung. December 5, 1924. *Ho tsai*. The flesh of the fruits is crushed and steeped in a small quantity of water, and the liquid that is drained off is used as a gray dye.

63629 to 63650—Continued.

63645. No. 45. Kongtau village, Loh-kongtung, Kwangtung. December 5, 1924. *Yuk hoh tsz*. Used in the same manner as No. 44 [S. P. I. No. 63644].

63646 to 63648. VIGNA CYLINDRICA (Stickm.) Skeels. Fabaceae. Catjang.

63646. No. 33. Pakmiu, Heungshan District, Kwangtung. *Hung tau*. This variety, which takes its name from the red color of the skin covering the seed, is harvested in June. The uses, which are not so varied as those of the others, are mostly in boiled dishes, alone with sugar, and for making soup.

63647. No. 34. Tsangshing, Kwangtung. *Hung kong tau*. Harvested in June and used in the same manner as No. 33 [S. P. I. No. 63646].

63648. No. 38. *Min tau*. This variety is characterized by a black "eye" around the hilum. Harvested during June or July and used in the same way as No. 33 [S. P. I. No. 63646]. It is considered by some to be useful in the treatment of rheumatism, and rice wine in which this bean has been boiled is used as a general tonic.

63649. VITEX NEGUNDO INCISA (Lam.) C. B. Clarke. Verbenaceae.

No. 47. Honam Island. December, 1924. *Hut kin shau*. This half-woody wild shrub is used by the Chinese as an astringent in the case of an open wound. The leaves are fragrant when crushed, and the pale-blue flowers are produced in terminal spikes.

63650. VITEX TRIFOLIA L. Verbenaceae.

No. 58. *Pak muk ying*. A shrub 2 to 3 meters high cultivated for drug purposes in a garden on Honam Island. The leaves have a dense white pubescence which gives the plant a grayish appearance; the flowers are light blue.

63651 to 63661. FRAGARIA spp. Rosa-ceae. Strawberry.

From Orleans, France. Plants purchased from Léon Chénault & Fils. Received April 16, 1925.

European varieties not known in the American trade.

63651. FRAGARIA sp.

Lucida Californica.

63652. FRAGARIA sp.

Chanteclair.

63653. FRAGARIA sp.

Gemma. Very vigorous, everbearing; fruits large and white, with little fiber. (*Catalogue of Millet & Fils.*)

63654. FRAGARIA sp.

Général de Castelnau. An everbearing very productive variety. Fruit larger than that of La Perle, dark red, very juicy, sweet, and firm. (*Grandes Rose-raises du Val de la Loire Catalogue.*)

For previous introduction see S. P. I. No. 59798.

63655. FRAGARIA sp.

63651 to 63661—Continued.

Madame Meslé. A very vigorous giant variety with enormous brilliant vermilion red fruits with pink flesh; a good commercial variety of large yield. Season medium. (*Catalogue of Millet & Fils.*)

For previous introduction see S. P. I. No. 56155.

63656. FRAGARIA sp.

Madame Moutot. A giant variety with enormous spherical red fruits; flesh light salmon. Quality excellent. (*Catalogue of Millet & Fils.*)

63657. FRAGARIA sp.

Marguerite Chabert. Fruit conical, very large, dark red; flesh pink. (*Catalogue of Rivoire Père & Fils.*)

63658. FRAGARIA sp.

Marguerite Lebreton. A very early variety with abundant elongated fruits. One of the best forcing varieties. (*Catalogue of Millet & Fils.*)

For previous introduction see S. P. I. No. 56157.

63659. FRAGARIA sp.

The Indispensable. An everbearing, very prolific variety, quite hardy; the plant does not disappear in winter. The fruits are larger than those of Docteur Morère, juicy, sweet, with firm red flesh of fine quality, and stands shipping well. It bears from June until frost. (*Edmond Versin, Orleans, France.*)

For previous introduction see S. P. I. No. 62521.

63660. FRAGARIA sp.

White Pineapple. Fruits white, very large. (*Catalogue of Millet & Fils.*)

63661. FRAGARIA sp.

Zoulon.

63662. SAXIFRAGA PURPURASCENS Hook.
f. and Thoms. Saxifragaceae.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received August 2, 1922. Numbered April, 1925.

This beautiful species comes from the temperate regions of the Sikkim Himalaya, where it was discovered growing in wet places at an altitude of from 10,000 to 14,000 feet. Though closely allied to the Himalayan *Saxifraga ligulata* and the Siberian *S. crassifolia*, it is quite different from, and far more beautiful than, either of those species. Nothing indeed can exceed the bright glossy green of the leaves, which are elegantly margined with red, or the deep, bright, vinous red-purple of its scape and inflorescence. (*Curtis's Botanical Magazine, pl. 5066.*)

For previous introduction see S. P. I. No. 39074.

63663 to 63667.

From Vineland Station, Ontario, Canada. Plants presented by F. E. Palmer, director, Horticultural Experiment Station. Received April 13, 1925. Notes from The Canadian Horticulturist, vol. 47, no. 4, unless otherwise stated.

63663 to 63667—Continued.

63663. FRAGARIA sp. Rosaceae.

Strawberry.

Valonia. A cross between Dunlap and Early Ozark. It is a vigorous grower, with perfect flowers, and is productive. In season it is two or three days earlier than Dunlap. The fruits are of medium size, bright red, moderately firm, and fair to good in quality.

63664. FRAGARIA sp. Rosaceae.

Strawberry.

Vanguard. A cross between Pocomoke and Early Ozark. The plants are vigorous, healthy, and productive, with perfect flowers. The ripening season is about a week before Dunlap. The fruits are of medium size, round-conic, regular in shape, bright red, firm, and of good quality, being sweeter than most early varieties.

63665. FRAGARIA sp. Rosaceae.

Strawberry.

Vantage. A cross between Williams and Early Ozark. Described (Report of the Vineland Station to the Ontario Department of Agriculture for 1919) as a vigorous grower, with early-maturing bright-pink fruits which retain their color in storage. Quality fair.

63666. RUBUS sp. Rosaceae. Raspberry.

Viking. A red raspberry (No. 14038), the result of a cross between Cuthbert and Marlboro. It is intermediate in character between the two parents. It is very vigorous, the canes being both stouter and taller than Cuthbert. There is very little tendency to droop over and hide the fruits, as does the Cuthbert, picking thus being an easier operation. The canes are almost entirely free of spines. In hardness, from present observation, it is about the same as Cuthbert, or a little better. The fruit is as large as or larger than Cuthbert, firm, and should be good for shipping. In color the fruit more or less resembles Marlboro, being lighter than Cuthbert.

63667. FRAGARIA sp. Rosaceae.

Strawberry.

No. 19322. This variety has not been sufficiently tested to decide definitely as to its value, but it looks promising as an early berry for local markets. It is vigorous, productive, and a good plant maker. The fruit is of good quality and appearance, though possibly lacking in firmness for distant shipping.

63668 and 63669.

From Algeria. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April, 1925. Notes by Doctor Fairchild.

63668. CASUARINA sp. Casuarinaceae.

Near Maison Carree, March 13, 1925. Related to *Casuarina suberosa*, but distinct in having shorter cones. This attractive spreading tree was growing in the grounds of a famous French botanist who was the first president of the Société Botanique de France.

63669. TRIFOLIUM ALEXANDRINUM L. Fabaceae.

Berseem.

From Boufarik. Doctor Trabut has made a real success of the berseem even though it has been subjected to temperatures much below freezing. This seed

63668 and 63669—Continued.

was presented by J. Paulian, manager of the Domaine Ste. Marguerite, who is delighted with it as a green feed for cattle.

63670 to 63672.

From Algeria. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 6, 1925. Notes by Doctor Fairchild.

63670. *COTULA CINEREA* Delile. *Asteraceae*.

In France and Algeria it is the custom to take various kinds of so-called "tisanes," herb teas made of infusions of aromatic herbs. Doctor Trabut has presented these seeds with the recommendation of his own experience.

63671. *CUCURBITA MOSCHATA* Duchesne. *Cucurbitaceae*. Cushaw.

Seeds of the *Courge Bedouin* or "Bedouin squash," purchased in a market in Algiers. The seeds of this variety are confined to one end of the elongated fruit, the other end being solid flesh. In shape it resembles a short club.

63672. *KOELERIA SETACEA* (Pers.) DC. *Poaceae*. Grass.

These roots are from the driest rocky clay soils of the mountains near Bou Saada, where this grass forms small patches of compact tufts, dark green in color. During the summer the plants must have been subjected to an intense heat and completely dried out.

63673 to 63675. *TRIFOLIUM* spp. *Fabaceae*.

From Ayr, Scotland. Seeds purchased from McGill & Smith. Received April 9, 1925.

Locally grown seeds.

63673 and 63674. *TRIFOLIUM PRATENSE* L. *Red clover*.

63673. *Montgomery*.

63674. *Vale of Clwyd*.

63675. *TRIFOLIUM REPENS* L. *White clover*.

Danish Morso.

63676 to 63688.

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 16, 1925.

63676. *ABIES KOREANA* Wilson. *Pinaceae*.

A newly discovered fir from Chosen, which is described by E. H. Wilson (Journal of the Arnold Arboretum, vol. 1, p. 188) as a tree 30 to 50 feet high, with a trunk 4 to 10 feet in circumference, and characterized by its pyramidal habit and deeply fissured rough bark. It is an alpine species, growing abundantly above 3,000 feet in Chosen. It is densely branched, and the lustrous-green leaves with white undersurfaces make the tree very striking.

For previous introduction see S. P. I. No. 63328.

63677. *BUDDLEIA ALTERNIFOLIA* Maxim. *Loganiaceae*.

According to Mottet (Arbres et Arbustes d'Ornement de Pleine Terre, p. 359), this was introduced from China

63676 to 63688—Continued.

in 1920. It is distinguished by its lilac flowers, which are very small and arranged in many-flowered sessile masses along the flowering branches. It flowers in June and July and has an elegant habit.

For previous introduction see S. P. I. No. 62283.

63678. *CALLICARPA GIRALDIANA* Hesse. *Verbenaceae*.

The dense clusters of round, berry-like violet fruits produced by this Chinese shrub in late autumn make it of great ornamental value. It has membranous light-green leaves and many-flowered cymes of pink flowers, and has proved hardy in southern Massachusetts, although little known elsewhere in the United States.

63679. *CARPINUS TURCZANINOVII* Hance. *Betulaceae*.

A hardy, shrubby Chinese hornbeam with oval sharp-pointed leaves 1 to 2 inches long. It is said to resemble *Carpinus polynœura*, also a Chinese species, and may have value as an ornamental plant.

For previous introduction see S. P. I. No. 63346.

63680. *CORYLUS CHINENSIS* Franch. *Betulaceae*.

The Chinese hazelnut is closely allied to the tree hazelnut (*Corylus colurna*), differing in leaf and stem characters. It becomes a tall tree, sometimes over 100 feet high, with heart-shaped leaves about 7 inches long. The nuts are borne in clusters of four to six. Native to western China.

63681. *HEMITELEA DAVIDII* (Hance) Planch. (*Zelkova davidii* Hemsl.). *Ulmaceae*.

A shrubby, spiny, elmlike tree, native to Chosen and northern China, which has merit as an ornamental tree because of its handsome dark-green foliage; the leaves are oval or oblong, deeply toothed, and about 2 inches long. Because of its spines, the tree may be useful for tall hedges.

63682. *LARIX DAHURICA PRINCIPIS-RUPPRECHTII* (Mayr) Rehd. and Wils. *Pinaceae*.

A hardy Chinese larch which makes a handsome tree, sometimes as much as 70 feet in height, with attractive bright-green foliage and shiny cones over an inch long.

63683. *LARIX EUROLEPIS* Henry. *Pinaceae*.

A hybrid between *Larix decidua* (*L. europaea*) and *L. leptolepis*; it is said to be a tree of vigorous growth.

63684. *PAEONIA MLOKOSIEWITSCHI* Lomakin. *Ranunculaceae*.

This is the most handsome of the yellow-flowered peonies, according to Curtis's Botanical Magazine (pl. 8173). It is a herbaceous perennial with stout stems, blue-green biternate leaves with red nerves and margins, and sulphur-yellow flowers. It appears to be as hardy as the other herbaceous peonies and as easily cultivated. It is native to the western part of the central Caucasus.

63676 to 63688—Continued.

63685. *ROSA FOLIOLOSA* × *RUGOSA* Rosaceae.

One of Vilmorin's hybrids.

63686. *VIBURNUM HENRYI* Hemsl. Caprifoliaceae.

An evergreen shrubby viburnum 10 feet or more in height, with dark shining green oblong leaves and stiff pyramidal panicles of white flowers. The oval fruits, a third of an inch long, are at first red, becoming black, and give the shrub a decidedly ornamental appearance in autumn. Native to central China, and hardy as far north as Massachusetts.

63687. *VIBURNUM HUPEHENSE* Rehder. Caprifoliaceae.

A fairly hardy, deciduous shrubby species, allied to *Viburnum wrightii*, with coarsely toothed, long-pointed, dark-green leaves and ovoid dark-red fruits. Native to central China.

For previous introduction see S. P. I. No. 59401.

63688. *VIBURNUM UTILE* Hemsl. Caprifoliaceae.

A handsome, hardy, evergreen shrub of rather open habit, with dark, glossy green, leathery leaves and pure white flowers produced in dense, terminal, rounded trusses in May. These are succeeded by oval blue-black berries. The shrub is native to western China, where it is said to grow on limestone soils.

63689. *PIROCYDONIA WINKLERI* Daniel. Malaceae.

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 20, 1925.

One of the pear grafts on the old quinces in the garden of St. Vincent College gave rise to a sucker of distinct character; this was called *Pirocydonia winkleri* by Lucien Daniel, Ile et Vilaine, France. The shoots and leaves are pubescent, unlike those of the pear. The leaves are short stemmed like the quince, but are lanceolate like the pear. A very peculiar thing about this hybrid is that it had its origin below the point of union of the graft and stock.

For previous introduction see S. P. I. No. 62016.

63690. *ANDROPOGON SERRATUS* Thunb. Poaceae. Grass.

From Mandalay, Burma, India. Seeds presented by the economic botanist, through C. V. Piper, Bureau of Plant Industry. Received April 16, 1925.

This grass is common throughout tropical Asia, including the Philippines. It has also been reported from Southern Rhodesia and is said to have some value as a forage grass. (Piper.)

63691 to 63699.

From Kwangtung Province, China. Rhizomes collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 20, 1925. Notes by Mr. McClure.

63691 to 63699—Continued.

63691. *ALPINIA* sp. Zinziberaceae.

No. 85. *Wong keung*. Obtained at the village of Taichong.

For previous introduction and description see S. P. I. No. 63551.

63692. (Undetermined.)

No. 88. February 20, 1925. *Sha keung*. This plant is commonly cultivated in sandy regions in Kwangtung and is claimed by the Chinese to have drug value. It is used as a condiment (the fresh rhizomes being crushed with a little peanut oil and soy sauce and eaten with meat), as an ingredient in curry powder, and is also prepared for the market by drying.

63693. (Undetermined.)

No. 93. February 3, 1925. *P'o chuk*. This is a medium-sized bamboo whose stems attain a diameter of about 1½ to 2 centimeters and a height of about 3 meters. The shoots or sprouts are naturally slender, but are longer proportionally than the average variety. They are the first to appear on the market in the spring, coming usually before the end of February. This is a very popular variety with the Chinese. The rhizomes are flat as distinguished from those of No. 100 [S. P. I. No. 63699] which are round.

63694. (Undetermined.)

No. 94. February 3, 1925. *Lei chuk*. This is a very small bamboo with stems scarcely more than 1 centimeter in diameter and 1 meter in height and sprouts which are proportionally small. It is not a commercial variety, but is gathered by the Chinese from the wild. The season is slightly later than that of No. 93 [S. P. I. No. 63693], coming in March.

63695. (Undetermined.)

No. 95. Sheungtip. February 3, 1925. *Kan chuk*. This is another dwarf variety of the edible bamboo and is about the size of *Lei chuk* [S. P. I. No. 63694]. It is cultivated, or rather allowed to grow around the villages, and the sprouts come on the market in April.

63696. (Undetermined.)

No. 96. Tangwanfoh, near Takhing. February 4, 1925. *Tai Ngan chuk*. A large-noded, medium-sized bamboo whose shoots come to the market in April.

63697. (Undetermined.)

No. 97. Tangwanfoh, near Takhing. February 4, 1925. *Fa Hok chuk*. A straight, smooth-stemmed bamboo of medium size, although somewhat larger than *Tai Ngan chuk* [S. P. I. No. 63696]. The Chinese prefer the sprouts of this variety to those of the *Tai Ngan* variety.

63698. (Undetermined.)

No. 98. February 16, 1925. *Mau chuk*. Obtained in Kaakmukhaang, near Szchim. This is a very interesting bamboo and is much spoken of though not commonly seen, the culture appearing to be carried on mostly in very out-of-the-way mountain ravines. The plant is unusual among bamboos, being covered with a fine velvety pubescence. The leaves are unusually small in proportion to the large size of the plant. So far as I

63691 to 63699—Continued.

know, it is the only large bamboo here which spreads and propagates itself by means of underground stems. The sprouts are among the largest and are highly esteemed by the Chinese, being eaten fresh, dried, and pickled. The soil in which this bamboo was growing is reddish brown loam underlain with limestone, and no fertilizer is used.

63699. (Undetermined.)

No. 100. Shekkonghaang. February 3, 1925. *P'o chuk*. It differs from No. 93 [S. P. I. No. 63693] by having round rhizomes.

63700 to 63726.

From Chihli Province, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received April 9, 1925. Notes by Mr. Dorsett.

Numbers 63700 to 63715 were obtained at Loutai, February 15, 1925.

63700. *CHAEOTCHLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.

No. 2173. *Huang nien ku* (yellow sticky millet). A variety which ripens in August. It is ground into flour and used for cakes. The Chinese do not feed it to their stock.

63701. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

No. 2164. *San pai hsi kua* (white watermelon). The true white watermelon, having white skin, flesh, and seeds. It has a diameter of 6 to 10 inches, a length of 18 inches, ripens in August, and is said to be of good quality.

63702 to 63713. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

63702. No. 2156. *Hsiao hua pi tien kua* (small striped-skin sweet melon). A green and white striped, sweet-scented melon which ripens about the end of June. It is normally about 3 inches in diameter and 6 inches in length.

63703. No. 2157. *Ta hua pi tien kua* (large striped-skin sweet melon). This variety is green and white striped, sweet scented, and about 4 or 5 inches in diameter and 8 to 9 inches in length.

63704. No. 2158. *Pai tien kua* (white sweet melon). A sweet-scented melon, about 4 inches in diameter and 8 inches in length, which ripens in July. It is of very good quality.

63705. No. 2159. *Huang hsiang kua* (yellow fragrant melon). A small melon, almost round and about 2 to 3 inches in diameter, which ripens in July. It is used when ripe for scenting rooms, but is not edible.

63706. No. 2160. *Kuai pai pa tien kua* (early white-handled sweet melon). A melon about 3 inches in diameter and 6 inches in length, which ripens in June or July. It is said to be of very good quality.

63707. No. 2163. *Ching pi tien kua* (green-skinned sweet melon). This variety, which is 3 to 4 inches by 6 to 8 inches, ripens in July and is considered to be of very good quality.

63700 to 63726—Continued.

63708. No. 2165. *Hei ke ta tsui* (black-knotted fragile melon). A white-fleshed melon, about 3 inches in diameter and 8 or more inches long, which is considered to be of very good quality.

63709. No. 2167. *Hua pi tsui kua* (striped-skin fragile melon). A green and white striped melon, 4 by 8 inches, which ripens in July. It is said to be of good quality.

63710. No. 2169. *Hua pi tien kua* (flower-skinned sweet melon). A small melon, said to have light-green flesh, about 3 by 6 inches, which ripens in July. It is considered to be of good quality.

63711. No. 2170. *Hua pi tung kua* (flower-skinned eastern melon). This variety, about 8 by 10 inches, ripens in October and is said to be of very good quality.

63712. No. 2171. *Huang tung kua* (yellow eastern melon). A melon 6 by 8 or 10 inches, which ripens in October; it is of very good quality.

63713. No. 2172. *Huang chiu tsui* (golden-yellow fragile melon). A white-fleshed variety, 4 by 10 or more inches, which ripens in August.

63714. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae. Cushaw.

No. 2168. *Huang bun wo kua* (yellow flat pumpkin). This variety, about 6 to 8 inches in diameter and 12 to 18 inches in length, is said to be harvested through the season. It is cut into small pieces and boiled.

63715 to 63717. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

63715. No. 2161. A variety, resembling kaoliang, which produces canes about 6 feet in height. It is not planted very extensively.

63716. No. 2186. Obtained at the Peking University, February 18, 1925, and originally collected at Liaoyang, Manchuria. *Huang ke nien kaoliang* (yellow-husked sticky kaoliang). It is sown in early spring and harvested in early September. The brush is about 19 inches long. This variety is used for grain and broom stock.

63717. No. 2187. This variety was also obtained at the Peking University, February 18, 1925, and was originally from Liaoyang. *Hung ke nien kaoliang* (red-husked sticky kaoliang). The brush is about 22 inches or more long. Used for grain and broom stock.

63718. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

No. 2175. Loutai. February 15, 1925. *Lu tou* (green mung bean).

63719 to 63721. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

Loutai. February 15, 1925.

63719. No. 2155. *Huang tou* (yellow soy bean).

63700 to 63726—Continued.

63720. No. 2176. *Hei tou* (black soy bean).

63721. No. 2180. *Ching tou* (green soy bean).

63722. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceae. Fenugreek.

No. 2102. Peking. February 12, 1925. *Hsiang tao* (fragrant grass). Obtained at the market and said to have originally come from one of the southern provinces. The Chinese use it in their rooms and sometimes put it in their pillows.

63723. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 2178. Loutai. February 15, 1925. *Chiu mai* (winter wheat).

63724 and 63725. *VIGNA SINENSIS* (Torrner) Savi. Fabaceae. Cowpea.

63724. No. 2174. Loutai. February 15, 1925. *Hung yeu pai chiang tou* (brown-eyed white cowpea).

63725. No. 2179. Loutai. February 15, 1925. *Tai li pang tsai tou* (fat-in-the-pod vegetable bean). These may be a pink-striped cowpea.

63726. *ZEA MAYS* L. Poaceae. Corn.

No. 2177. Loutai. February 15, 1925. *Pat yu mi* (white corn).

63727 to 63731.

From French West Africa. Seeds presented by Prof. R. H. Forbes. Received April 9, 1925. Notes by Professor Forbes.

63727 and 63728. *GOSSYPIUM OBTUSIFOLIUM AFRICANUM* Watt. Malvaceae. Cotton.

63727. From the vicinity of Bobodioulasso, in the Haute Volta. This is a perennial tree cotton considerably grown in the rainy regions south of the Niger. The fiber is strong and very short. The yield is low.

63728. From the Sudan, north of the Niger. This is probably the same as the above [S. P. I. No. 63727].

63729. *GOSSYPIUM PUNCTATUM* Schum. and Thonn. Malvaceae. Cotton.

From Segou, French Sudan. This is the species cultivated by the natives throughout the Sudan proper. It yields a strong but short fiber, 20 to 22 millimeters. It is mostly used by the natives, only small quantities being exported to France.

63730. *SYNTHESISMA* sp. Poaceae. Grass.

From Segou, French Sudan. This is the "fonio" of the natives, a "famine crop." Matures quickly during a scant rainfall, while all other crops fail.

63731. *VOANDZEIA SUBTERRANEA* (L.) Thouars. Fabaceae.

From Segou, French Sudan. There are two varieties, red and white, which mature quickly on scant rainfall. A "famine crop."

63732. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Haiti. Cuttings presented through John A. Stevenson, Bureau of Plant Industry. Received April 20, 1925.

A locally developed strain.

63733. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortun, director, Estación Experimental Agronomica, through E. W. Brandes, Bureau of Plant Industry. Received April 20, 1925.

H 109.

A locally developed strain.

63734 to 63736.

From Valley River, Manitoba, Canada. Plants presented by W. J. Boughen, Valley River Nurseries. Received April 21, 1925. Notes by Mr. Boughen.

63734. *VIBURNUM AMERICANUM* Mill. Caprifoliaceae.

Highbush cranberry from banks of the Skeena River, about 53° N. Lat.

63735. *PRUNUS PENNSYLVANICA* L. f. Amygdalaceae. Pin cherry.

Selected pin cherry, from 51.5° N. Lat.

63736. *RIBES* sp. Grossulariaceae. Gooseberry.

Thornless gooseberry from Fort La Corne, about 53° N. Lat.

63737 and 63738. *LANDOLPHIA* spp. Apocynaceae.

From Loanda, Angola, Africa. Seeds presented by John Gossweiler, Servicos de Agricultura. Received April 24, 1925.

Rubber-yielding shrubs.

63737. *LANDOLPHIA KLAIRII* Pierre.

A tropical African climbing shrub which is said (Flora of Tropical Africa, vol. 4, sec. 1) to be the principal rubber-producing plant in the Gabon district, French Equatorial Africa. The oblong leathery leaves are glossy green, and the hard globose fruits are 6 to 10 inches in diameter.

63738. *LANDOLPHIA PARVIFOLIA* Schum.

This is described by Otto Stapf (Thielsen-Dyer, Flora of Tropical Africa) as a much-branched, climbing shrub with small oblong leaves and pale-yellow or white flowers in small dense clusters. The greenish purple fruits, about 2 inches in diameter, have a smooth thick rind.

For previous introduction see S. P. I. No. 61015.

63739 and 63740. *HELIANTHUS TUBEROSUS* L. Asteraceae.

Jerusalem artichoke.

From Erfurt, Germany. Tubers purchased from Haage & Schmidt. Received April 22, 1925.

Locally grown tubers.

63739. *Erdbirne*.

63740. Received as *Helianthus doronicoides*, now referred to *H. tuberosus*.

63741 to 63750.

From Ottawa, Canada. Presented by W. T. Macoun, Dominion horticulturist, Central Experimental Farm. Received April 23, 1925.

63741 to 63750—Continued.

63741 to 63749. *MALUS SYLVESTRIS* Mill.
Malaceae. Apple.

A collection of seedlings of the McIntosh apple.

63741. *Joyce*. 63746. *Newtosh*.

63742. *Labo*. 63747. *Patricia*.

63743. *Lawfam*. 63748. *Pedro*.

63744. *Melba*. 63749. *Stonetosh*.

63745. *Miltosh*.

63750. *PRUNUS TOMENTOSA* Thunb.
Amygdalaceae. Manchu cherry.

Scions of a locally developed strain.

63751. *COFFEA EXCELSA* Cheval. Rubi-
aceae. Coffee.

From Lamao, Bataan, Philippine Islands. Seeds presented by S. Youngberg, acting Director of Agriculture, Bureau of Agriculture, Manila, at the request of P. J. Wester. Received April 9, 1925.

According to the Philippine Review (vol. 9, p. 121), this coffee thrives from sea level to 700 meters, succeeds well on rather stiff clayey soils, and is quite drought resistant. It might be grown with an annual rainfall of 48 inches. It is the most resistant to blight and drought of any coffee, is of strong vigorous growth, and produces 1 kilogram of dry coffee from 7 to 8 kilograms of fresh berries. *Coffea excelsa* makes an excellent stock for other coffees. The first crop is obtained at the age of 4 to 5 years and a full crop at the age of 7 to 8 years.

For previous introduction see S. P. I. No. 63602.

63752. *LACTUCA SATIVA* L. Cichoria-
ceae. Lettuce.

From Nanking, China. Seeds presented by M. Leslie Hancock, University of Nanking. Received April 14, 1925.

Grown by the Chinese for its stem, which is very fleshy. (Hancock.)

63753. *TRIFOLIUM PRATENSE* L. Faba-
ceae. Red clover.

From Scheemda, Netherlands. Seeds presented by the Hommo Ten Have's Seed Co. Received April 17, 1925.

Remontant. A European variety of red clover.

For previous introduction see S. P. I. No. 62309.

63754. *HELIANTHUS TUBEROSUS* L. As-
teraceae. Jerusalem artichoke.

From Toronto, Canada. Tubers purchased from William Rennie Co. Received May 6, 1925.

Locally grown tubers.

63755 to 63757.

From Kwangtung Province, China. Collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 24, 1925. Notes by Mr. McClure.

63755 to 63757—Continued.

63755. *ALPINIA* sp. Zinziberaceae.

No. 104. March 6, 1925. *Yik tsz, Ye keung fa*. Rhizomes obtained at the Canton Christian College. This is a beautiful ornamental forming a dense growth of tough herbaceous stems which are set with fine dark-green foliage terminating in the summer in large racemes of fragrant white blossoms with red and golden lips. In addition to its value as an ornamental, the seeds, according to the Chinese, have a drug value. In fact, they are said to bring a wholesale prices of \$50 to \$100 per 100 catties [133½ pounds].

63756. *POTHOS SEEMANNI* Schott. Araceae.

No. 106. Cuttings from a vine growing on a tree trunk on the Tengoo Mountain. A herbaceous climbing plant which adheres closely to the bark of trees by means of woolly adventitious roots. After attaining sufficient length to reach the lower branches of the tallest trees, it hangs in beautiful long festoons. It is a fine ornamental, chiefly on account of its splendid foliage; the flowers, in keeping with those of its kind, are rather inconspicuous.

63757. (Undetermined.) Poaceae. Bamboo.

No. 102. March 5, 1925. *Lak cha chuk*. Rhizomes of an edible bamboo, which is of considerable merit, collected on Honam Island, east of Tait'ong. It is of medium size, and when grown on fertile soil the culms reach a diameter of about 2.5 to 3 centimeters and a height of 3 to 4 meters. The nodes or joints are rather prominent, being larger in proportion to the stem than is usually the case. The sprouts, which are ready to harvest about the first of April, are very popular, bringing 50 to 60 cents a catty [1¼ pounds]. As grown here this bamboo is not fertilized and is allowed to shift for itself.

63758 to 63783.

From Amani, Tanganyika Territory, Africa. Seeds presented by A. H. Kirby, Director of Agriculture. Received April 9, 1925.

63758. *ADENANTHERA MICROSPERMA* Teijsm. and Binn. Mimosaceae.

No. 12. A handsome tropical tree, closely related to the mimosas, with attractive clean-cut foliage and twisted pods bearing bright-red beans. It is native to the East Indies and is considered a valuable timber tree because of its strong dark-brown wood, which is very hard, in spite of the rapid growth of the tree.

For previous introduction see S. P. I. No. 61478.

63759. *ALBIZZIA ADIANTHIFOLIA* (Schum.) W. F. Wight (*A. fastigiata* E. Mey.). Mimosaceae.

No. 16. A tropical African tree, of fastigate habit, with finely divided foliage. According to Holland (Useful Plants of Nigeria, pt. 2), this tree yields a gum somewhat similar to gum arabic. The seeds, after maceration, are eaten as a sauce by the natives of West Africa.

For previous introduction see S. P. I. No. 62897.

63758 to 63783—Continued.

63760. *BARYXYLUM DASYRACHIS* (Miquel) Pierre (*Peltophorum dasyrachis* Kurz.).
Caesalpiniaceae.

No. 237. A tall unarmed East Indian tree, described by Hooker (Flora of British India, vol. 2, p. 257) as having rigid pinnate leaves up to a foot in length and showy yellow flowers produced in terminal and axillary clusters 6 to 9 inches long.

63761. *BERRIA AMMONILLA* Roxb. Tiliaceae.

No. 47. "Trincomali wood" is the name under which the very hard, durable, dark-red wood of this Indian tree is exported, according to Watt (Dictionary of the Economic Products of India). The wood is used for making agricultural implements and for other purposes where toughness and hardness are desired. The tree is large, with long-stemmed, heart-shaped leaves and dense racemes of small white flowers. Its distribution includes the Malay Archipelago and the Philippines.

For previous introduction see S. P. I. No. 61482.

63762. *BERSAMA USAMBARICA* Guerke.
Bersamaceae.

No. 48. A tropical African tree about 50 feet tall, with pinnate leaves 2 feet or more long and silky white flowers. It should be tried as a shade tree for extreme southern Florida.

63763. *BRIDELIA MICRANTHA* (Hochst.) Baill. Euphorbiaceae.

No. 52. According to J. H. Holland (Useful Plants of Nigeria, pt. 4), this is a thorny widespreading tree 20 to 40 feet high, which varies considerably in its height and degree of thorniness. The small black berries are edible, and the white timber is exceedingly durable and resistant to termites. Native to tropical Africa.

63764. *CANARIUM POLYPHYLLUM* Schum.
Balsameaceae.

No. 63. The edible fruits of this Malaysian tree, according to Der Tropenpflanzer (vol. 17, p. 147) resemble walnuts and yield an oil which can be used in making margarine and similar products.

63765. *CASUARINA DISTYLA* Vent. Casuarinaceae.

No. 76. Unlike many of the better known casuarinas, this species is usually a small shrub 2 to 3 feet high. It is common in Tasmania and in parts of southern Australia.

For previous introduction see S. P. I. No. 61484.

63766. *COFFEA BUKOBENSIS* Zimmerm.
Rubiaceae. Coffee.

No. 104. The coffee grown in the vicinity of Bukoba, Tanganyika Territory, was formerly supposed to be a variety of *Coffea arabica*, but Zimmermann (Der Pflanzler, vol. 4) maintains that it is a separate species and has named it *C. bukobensis*. The differences are in the venation of the leaves and flower structure. Culturally this species is very similar to *C. arabica*.

For previous introduction see S. P. I. No. 61485.

63758 to 63783—Continued.

63767. *COFFEA* sp. Rubiaceae. Coffee.

No. 108. Received as *Coffea quilloa*, for which a place of publication has not been found.

Introduced for cultural and comparison tests in tropical America.

For previous introduction see S. P. I. No. 61486.

63768. *DEGUELIA DALBERGIOIDES* (Baker) Taub. (*Derris dalbergioides* Baker).
Fabaceae.

No. 132. A small spreading tree, described by Hooker (Flora of British India, vol. 2, p. 241) as being about 20 feet high, with rigid dark-green compound leaves and copious racemes of pink flowers. Native to eastern India and Java.

63769. *DIPTEROCARPUS TRINERVIS* Blume.
Dipterocarpaceae.

No. 136. An East Indian tree described by Baker (Schoolflora voor Java, p. 108) as being 100 feet or more tall, with elliptical leaves about a foot long and clusters of large red flowers.

63770. *FICUS CHLAMYDODORA* Warb. Moraceae.

No. 171. A stately tree grown largely as a shade tree in parts of tropical Africa because of the handsome foliage and brick-red branches. According to Holland (Useful Plants of Nigeria), it bears twice a year abundant crops of peach-colored figs, which are fairly sweet and juicy.

For previous introduction see S. P. I. No. 61490.

63771. *FLACOURTIA RUKAM* Zoll. and Mor.
Flacourtiaceae.

No. 176. A handsome unarmed Malayan tree with leathery leaves and edible berries, about the size of cherries, which are said to make excellent preserves.

63772. *INTSIA BIJUGA* (Colebr.) Kuntze (*Afzelia bijuga* Gray).
Caesalpiniaceae.

No. 15. The ipil, as this is known in the Philippines, is described (W. H. Brown, Minor Products of Philippine Forests, vol. 2) as a tall tree, 100 feet or more in height, with fragrant white and reddish flowers borne in large conspicuous clusters. The wood is valued as building material.

63773. *LANDOLPHIA STOLZII* Busse. Apocynaceae.

No. 206. A number of Landolphas are being introduced from tropical Africa for testing by department rubber specialists. This one is described by Thiselton-Dyer (Flora of Tropical Africa) as a climbing shrub with small oval leaves, dense clusters of white sweet-scented flowers, and fruits resembling small oranges.

For previous introduction see S. P. I. No. 61493.

63774. *LANDOLPHIA* sp. Apocynaceae.

No. 207. The Landolphas are tropical African climbers, many of which yield rubber. This unidentified species will be tested in southern Florida for its rubber-yielding value.

63758 to 63783—Continued.

63775. *LILIUM REGALE* Wilson. Liliaceae.
Regal lily.

No. 210. Seeds of the Regal (Royal) lily as grown in Africa, introduced for department horticulturists.

For previous introduction see S. P. I. No. 61494.

63776 and 63777. *MANIHOT GLAZIOVII* Muell. Arg. Euphorbiaceae.

Ceara rubber.

Ceara rubber, obtained from this tree, is one of the important rubbers of commerce.

For previous introduction see S. P. I. Nos. 61496 and 61497.

63776. No. 216. Received as *Manihot dictoma*, but the seeds do not agree with that species.

63777. No. 217.

63778. *MUSA TEXTILIS* Nee. Musaceae.

No. 227.

Abacá seeds to be grown for testing as fiber.

For previous introduction see S. P. I. No. 61500.

63779. *PACHIRA FASTUOSA* (DC.) Decaisne. Bombacaceae.

No. 51. A handsome tropical tree native to Mexico, according to the Gardeners' Chronicle, vol. 54, p. 325. The flowers in their size and color are both exceptional and attractive, as they measure about a foot in diameter; the strap-shaped petals are white, and the large brushlike clusters of stamens are crimson and yellow. The foliage is not unlike that of the horse-chestnut, but it is more leathery in texture.

63780. *PENTAS* sp. Rubiaceae.

No. 238. A shrubby tropical plant, native to West Africa, which may have value as a greenhouse ornamental.

63781. *PTYCHOCOCCUS PARADOXUS* (Scheff.) Beccari. Phoenicaceae.

Palm.

No. 262. A small palm, 9 to 12 feet high, native to New Guinea. The slender trunk is covered with white hairs, and the feathery leaves are borne at the summit of the trunk.

63782. *RANDIA* sp. Rubiaceae.

No. 263. The *Randias* are tropical shrubs or trees, often with showy white or yellowish flowers. The round berries of some species are edible.

Received as *Randia sericantha*.

63783. *SCHEFFLERODENDRON USAMBARENSE* Harms. Fabaceae.

No. 274. A handsome tropical African leguminous tree, described by Harms (Engler's Botanische Jahrbücher, vol. 30, p. 88) as having dense compound foliage and axillary racemes of reddish brown flowers.

63784. *MUSA PARADISIACA SAPIENTUM* (L.) Kuntze. Musaceae. Banana.

From San Juan, Porto Rico. Suckers presented by O. W. Barrett, agricultural adviser, Department of Agriculture and Labor. Received April 9, 1925.

Colorado Blanco. A Porto Rican variety.

63785. *CHRYSOPHYLLUM MONOPYRENUM* Swartz (*C. oliviforme* Lam., not L.). Sapotaceae. Satin leaf.

From Manila, Philippine Islands. Seeds presented by P. J. Wester. Received April 13, 1925.

While the fruits of this tree are usually poor for eating purposes, I had brought to me recently a bag of fruits of remarkably good quality. These are distinctly superior to many native edible fruits. (Wester.)

A tropical American tree of attractive appearance; the oval or oblong leaves are silky golden beneath, the flowers are white, and the blue-black fruits are over an inch long.

63786. *FUNTUMIA ELASTICA* (Preuss) Stapf. Apocynaceae.

Lagos rubber tree.

From Accra, Gold Coast Colony, Africa. Seeds presented by W. S. D. Tudhope, Director, Department of Agriculture. Received April 16, 1925.

A large forest tree which is very widely distributed throughout central Africa and is the source of Lagos rubber which is of excellent quality.

For previous introduction see S. P. I. No. 61086.

63787 to 63797.

From Kwangtung Province, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 21, 1925. Notes by Mr. McClure.

63787 and 63788. *ADENANTHERA MICROSPERMA* Teijsm. and Binn. Mimosa-ceae.

63787. No. 89. February 5, 1925. *Sai sz kak*. From trees growing in the mission compound at Tukking. This is an excellent lumber tree with rich-brown wood which is very strong and hard in spite of its comparatively rapid growth. As an ornamental it is also desirable, with its splendid clean-cut leaves and cork-screw pods bearing bright-red beans. It reaches a considerable size, the largest specimen in the compound being 40 centimeters in diameter and 15 meters high.

63788. No. 90. February 10, 1925. *Seung sz kak*. From Tenguhausen, near Haulik, on the West River. Similar to No. 89 [S. P. I. No. 63787] except that the seeds seem slightly smaller and darker.

63789. *BISCHOFIA* sp. Euphorbiaceae.

No. 83. February 10, 1925. *Kat long, Chau jung*. Found near Haulik, West River. This tree, like *Bischofia javanica*, to which it seems closely related but from which it may be distinguished by its smaller leaves and berries, is valued as a source of lumber. It is a deciduous tree bearing profusely large dense pendulous panicles of small, brown, dry fruits.

63790. *BOEHMERIA NIVEA* (L.) Gaud. Urticaceae. Ramie.

No. 92. February 17, 1925. *Pak chue ma*. From plants cultivated near Lintan. Ramie, the material used to make the very useful summer fabric called grass cloth, is obtained from this plant.

63787 to 63797—Continued.

63791. *BRIDELIA MONOICA* (Lour.) Merr.
Euphorbiaceae.

No. 80. Sheungtip. February 3, 1925. *Pik pok tsai*. An attractive small, native tree whose slender drooping branches are slightly suggestive of the weeping willow, although the sessile leaves are elliptic ovate and obtuse. This plant, widely distributed throughout Kwangtung, is a fair ornamental, although neither its flowers nor its fruits are conspicuous.

63792. *FRAXINUS CHINENSIS* Roxb.* Oleaceae. Ash.

No. 84. February 10, 1925. *Shui lau, Chaak paan lau*. From two trees growing near a pond on the road to the Tengu Mountain, near Haulik. The lumber, not abundant here, is used by the Chinese to make implements, oars, etc.

63793. *ILEX* sp. Aquifoliaceae.

No. 79. *Chue t'in shue, Tsau peng shue, Pak lan heung*. From an isolated tree growing wild along the road near Samshui, on the flood plain of the West River. This is a beautiful spreading tree with smooth light-gray bark and glossy dark-green persistent foliage. The thick clusters of red berries are slightly flattened in shape and considerably smaller than a garden pea.

63794. *ILEX* sp. Aquifoliaceae.

No. 81. February 16, 1925. *Pak lan heung*. Along the road from Lintan to Szechin. This tree, leafless, but with every branch literally hidden in a profusion of brilliant red berries, was a most strikingly beautiful object. It stood out very conspicuously in quite a group of its species as being leafless but heavily loaded with fruits while the others still clung to half their foliage but bearing much less abundantly.

63795. *ORMOSIA CALAVENSIS* Azaola. Fabaceae.

No. 91. February 9, 1925. *Kai Ngaan shui*. A striking ornamental from a ravine on Tengu Mountain. This is a large tree with black bark, splendid foliage, and bearing bright-red seeds.

63796. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

No. 78. February 16, 1925. A light-green variety from a shop in Lintan and said to have originally come from Tung-koon, on the East River.

63797. *VITEX QUINATA* (Lour.) F. N. Williams. Verbenaceae.

No. 99. Kochanghui, on the Little North River. January 18, 1925. *Po keng, Fook shue*. This large tree, 10 meters high and 50 centimeters in diameter, bears small fragrant purple or lavender flowers in large upright panicles. It yields a hard wood useful in making furniture and boats.

63798. *MANIHOT GLAZIOVII* Muell. Arg. Euphorbiaceae. Ceara rubber.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received April 23, 1925.

An important rubber-producing plant, native to Brazil.

63799. *NEYRAUDIA MADAGASCARIENSIS* (Kunth) Hook. f. Poaceae. Grass.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received April 20, 1925.

A large coarse grass, described by J. D. Hooker (Flora of British India, vol. 7) as having a solid stem 6 to 8 feet or more in height, with smooth soft leaves 1 or 2 feet long and panicles 1 to 3 feet long. Although native to Madagascar, this grass is distributed throughout tropical Asia. In its native home the leaves are used for making hats.

63800 to 63820.

From Leningrad, Russia. Seeds presented by Dr. Wl. Kousnetzoff, botanist in charge of forage and pasture plants, Bureau of Applied Botany and Plant Breeding. Received April 13, 1925. Notes by Doctor Kousnetzoff.

63800 and 63801. *AGROPYRON CRISTATUM* (L.) Gaertn. Poaceae. Grass.

A perennial, thickly caespitose grass, upright or ascending, native to southern Europe and Asia.

63800. No. 1338. Province of Omsk.

63801. No. 2113. Minusinsk. Province of Yeniseisk, District of Siberia.

63802. *AGROPYRON SIBIRICUM* (Willd.) Beauv. Poaceae. Grass.

No. 1340. Province of Omsk.

An upright caespitose perennial grass, up to 16 inches high, with linear leaves. Native to southern Russia and the Caucasus.

63803 to 63805. *BROMUS INERMIS* Leyss. Poaceae. Grass.

A perennial upright European grass, which forms a thick mat, with creeping rhizomes. The stems are 1 to 3 feet high.

63803. No. 1612. Djirgalantou. Mongolia. From the basin of a river.

63804. No. 1613. Adjin, Mongolia. From the basin of the Kossogol River.

63805. No. 1342. Province of Omsk.

63806. *ELYMUS DAHURICUS* Turcz. Poaceae. Grass.

No. 1346. Province of Omsk.

A tall perennial grass with stout erect stems, native to mountainous regions in central and eastern Asia.

63807 and 63808. *ELYMUS SIBIRICUS* L. Poaceae. Grass.

A tall perennial grass with heavy pendulous panicles; native to Siberia.

63807. No. 1347. Province of Omsk.

63808. No. 2273. Nikol'sko-Ussurijsk, Province of Primorskaya.

63809 and 63810. *HEDYSARUM GMELINI* Ledeb. Fabaceae.

In localities where this is native it is popular as a forage plant.

63809. No. 2285. District of Minusinsk, Province of Yeniseisk.

63810. No. 2286. District of Minusinsk, Province of Yeniseisk.

63800 to 63820—Continued.

63811. *LESPEDEZA STRIATA* (Thunb.)
Hook. and Arn. Fabaceae.

No. 2270. Nikoljsko-Ussurijsk, Province of Primorskaya.

63812 and 63813. *MEDICAGO FALCATA* L.
Fabaceae.

63812. No. 1327. Province of Omsk.

63813. No. 2111. District of Minusinsk, Province of Yeniseisk.

63814. *MEDICAGO PLATYCARPA* (L.) Trautv.
Fabaceae.

No. 1311. Province of Irkutsk, eastern Siberia.

A Siberian alfalfa of erect habit, with yellow flowers and large, flat, black pods.

63815 and 63816. *MEDICAGO SATIVA* L. Fa-
baceae. Alfalfa.

63815. No. 1783. District of Slavgorodsk, Province of Omsk.

63816. No. 1784. District of Tatarsk, Province of Omsk.

63817. *ONOPRICHIS VULGARIS* Hill (*O. viciaefolia* Scop.). Fabaceae.

No. 2110. District of Minusinsk, Province of Yeniseisk.

63818. *PHLEUM PHLEOIDES* (L.) Karst. (*P. boehmeri* Wibel.). Poaceae. Grass.

No. 2115. District of Minusinsk, Province of Yeniseisk.

A perennial, thickly matted grass, native to Europe and western Asia, with stems 1 to 2 feet high and gray-green leaves up to 8 inches long.

63819. *TRIFOLIUM REPENS* L. Fabaceae.
White clover.

No. 1842. Harbin, Manchuria.

63820. *VICIA AMOENA* Fisch. Fabaceae.
Vetch.

No. 2109. District of Minusinsk, Province of Yeniseisk.

A perennial, hairy Siberian vetch, with erect stems up to 2 feet high and purplish flowers.

63821. *MUSA URANOSCOPOS* Lour. Musa-
ceae. Banana.

From China. Offshoots collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 27, 1925.

No. 107. March 10, 1925. *Shaan pa tsu, Shui tsu*. From plants growing on a trash pile near the Hengwan monastery on the Tengouo Mountain, Kwangtung. The plants are 1½ to 2 meters high, with leaves one-half to 1 meter long, bright-red flowers blooming in the summer, and fruits said to be very seedy and not edible. The plants do not appear to be cultivated by the Chinese around Canton, nor used by them for any purpose. (McClure.)

63822. *BERBERIS REPLICATA* W. W. Smith. Berberidaceae. Barberry.

From Wisley, Ripley, Surrey, England. Seeds presented by Fred J. Chittenden, director, Royal Horticultural Society Gardens. Received April 24, 1925.

An evergreen barberry originally collected by George Forrest in thickets on the Shweli-

Salwin Divide, southwestern China, at an altitude of 11,000 feet. The rather small leaves have recurved margins and are gray beneath. It is an early and profusely flowering species, bearing its blossoms all along the branches in a very attractive fashion, and the deep-crimson berries make it handsome in the fruiting stage. It appears to be very hardy in England.

For previous introduction see S. P. I. No. 58463.

63823 to 63826.

From Kwangtung Province, China. Collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 24, 1925. Notes by Mr. McClure.

63823. *EURYALE FEROX* Salisb. Nympha-
ceae.

No. 103. Shiuhing, on the West River. *Chi sat*. Seeds of a hydrophytic plant said to resemble the lotus somewhat. It is covered with short spines, however, and has very large, floating leaves. The seeds must be kept moist from maturity (September) until planting time (April), or they will not grow. They are stored wet in large earthen jars. If used for food, however, they are immediately dried, the shell removed, and the starchy kernels placed on the market. The most notable use to which the seeds of this plant are put is the feeding of a famous variety of cultivated fish known as man hing long lei ue. These fish are said to be characterized by very soft bones, fins, and scales, the latter being eaten with the flesh. The Chinese attribute these peculiar qualities of this fish to the fact that they are fed on the seeds of *chi sat*. These seeds are also used for human consumption and are considered to be a particularly beneficial food.

63824. *STIZOLOBIUM PACHYLOBIUM* Piper and Tracy. Fabaceae.

No. 101. March 2, 1925. *Tai kau tsau tsu*. Seeds obtained at the Canton Christian College. This plant is a luxuriant vine and is used in parts of China as green manure. It makes a prodigious growth.

63825. *POTHOS* sp. Araceae.

No. 120. March 14, 1925. *Shek p'o t'ang*. Cuttings obtained from the wilds near the village of Heunglokauk. This is a pretty creeping plant which covers the granite rocks in moist, shady situations.

63826. (Undetermined.) Poaceae. Bamboo.

No. 105. March 6, 1925. *Wack chuk*. Cuttings obtained at the Canton Christian College. This is a very striking ornamental bamboo with golden-yellow culms, marked vertically with random narrow stripes of bright green. It reaches a diameter of 9 or 10 centimeters and a height of 10 meters when well established. This bamboo is not common, but is seen here and there as an ornamental in the Chinese gardens and monasteries.

63827 and 63828. *LILIUM* spp. Lilia-
ceae. Lily.

From Harbin, Manchuria. Seeds presented by P. Pavlov, president of the natural history section, Manchuria Research Society. Received April 28, 1925.

63827 and 63828—Continued.

63827. *LILIUM DAURICUM* Ker.

A plant about 3 feet in height, with a smooth or slightly furrowed stem which is green or tinged with brown or purple. The 20 to 50 horizontal leaves are 3 to 5 inches long, and the flowers, one to five in a cluster and 3 to 5 inches across, are orange-red, slightly spotted with purplish black, and tinged with yellow in the center. The anthers are red.

For previous introduction see S. P. I. No. 58553.

63828. *LILIUM MARTAGON* L.

The Martagon lily grows wild from central and southern Europe to southwestern Siberia. The stem is 3 to 6 feet high, often purple spotted, with horizontal deep-green leaves 3 to 6 inches long and dull claret-purple flowers, spotted purplish black, with red anthers. From 3 to 20 flowers are produced at one time, usually in late June and July.

63829. *COIX LACRYMA-JOBI* MA-YUEN (Rom.) Stapf. Poaceae. Adlay.

From Lamao, Bataan, Philippine Islands. Seeds presented by S. Youngberg, acting director, Bureau of Agriculture, Manila. Received June 11, 1925.

La Union.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

63830 to 63836.

From Tibet, China. Seeds collected by Capt. F. Kingdon Ward and presented by Maj. Lionel de Rothschild, London, England. Received April 23, 1925. Notes by Captain Ward.

Collected in the Tsangpo Valley during April and May, 1924.

63830. *IRIS* sp. Iridaceae.

No. 5719. A purple-flowered plant, 9 inches in height, which grows in sandy soil in open alpine pastures at an altitude of 13,000 feet.

63831. *LILIUM* sp. Liliaceae.

No. 6428. A plant, 2 to 3 feet high, which grows on very steep, well-drained, grass-clad slopes in fine sandy soil, under pine trees, etc. It bears a single terminal flower.

63832. *LONICERA* sp. Caprifoliaceae.

No. 5688. A shrub, 6 feet high, which grows in thick spruce forests and which requires ample water and deep shade. The foliage and fruit are ornamental. The flowers were not seen.

63833. *LONICERA* sp. Caprifoliaceae.

No. 5753. A dwarf twiggy shrub, 1 to 1½ feet in height, growing in peaty soil on open slopes among dwarf rhododendrons. The flowers are small and yellow, and the berries large, scarlet, and translucent.

63830 to 63836—Continued.

63834. *LONICERA* sp. Caprifoliaceae.

No. 5776. A shrub, 6 to 8 feet high, requiring shade and ample water, found along streams in the forests. The leaves are dark green, the flowers yellow with large papery bracts, and the fruits are scarlet. It is very floriferous and particularly striking when in fruit.

63835. *LONICERA* sp. Caprifoliaceae.

No. 5872. A shrub, 2 to 3 feet high, bearing flowers of a purple-plum color and large blue-black berries. It grows on steep, sheltered, rocky slopes, in peaty soil with rhododendrons, etc.

63836. *LONICERA* sp. Caprifoliaceae.

No. 6106. A pale-yellow flowered bush or tree, 15 to 20 feet high, with orange-scarlet berries. The foliage is pale sea-green, almost glaucous. This species is found in fairly dry regions, in sandy soil, and in open meadows or thickets.

63837 to 63839.

From Kwangtung Province, China. Purchased by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 7, 1925. Notes by Mr. McClure.

63837. *COLOCASIA* sp. Araceae.

No. 113. Village of Heunglokeuk. March 14, 1925. *Fa tau oo*. This variety, of moderate size and oblong in shape, is considered by the Chinese to be of excellent quality and flavor. Tubers.

63838. *DIOSCOREA ALATA* L. Dioscoreaceae. Yam.

No. 116. Village of Heunglokeuk. March 13, 1925. *Tai hung shue*. A red-fleshed yam of good quality and flavor. Tubers.

63839. *ZINZIBER* sp. Zinziberaceae.

No. 114. Village of Heunglokeuk. March 13, 1925. *Shaan keung*. Cultivated and used in the village of Heunglokeuk as a condiment, as is the ginger commonly grown around Canton. Rhizomes.

63840. *RUBUS* sp. Rosaceae.

From Stavanger, Norway. Plants presented by Thoralf Bryne. Received May 7, 1925.

Paradise berry. A large red raspberry, almost as large as the largest variety known in cultivation, which is the English variety, the Royal. (Bryne.)

For previous introduction see S. P. I. No. 56145.

63841 to 63845. *GOSSYPIUM* spp. Malvaceae. Cotton.

From Nanking, China. Seeds presented by the University of Nanking, through T. H. Kearney, Bureau of Plant Industry. Received May 2, 1925.

63841 to 63843. *GOSSYPIUM* NANKING Meyen.

The "Chipse" cotton of commerce is, according to Watt (Wild and Cultivated Cottons of the World) an annual or perennial bush, with delicate, sparsely branched stems and imperfectly cordate leaves. The irregular-shaped seeds are densely coated with rufous velvet and

63841 to 63845—Continued.

bear a silky fiber, which in all the better varieties is white but often shows a tendency to become reddish or khaki. This cotton is cultivated throughout tropical Asia.

For previous introduction see S. P. I. No. 62595.

63841. Greenish yellow flowers.

63842. *Hsiao kan kwan*.

63843. Flowers small and white.

63844. *GOSSYPIUM* sp.

Million Dollar.

63845. *GOSSYPIUM* sp.

F 5.

63846 to 63849. *ORNITHOGALUM* spp.
Liliaceae.

From Bonnie Vale, Cape Province, South Africa. Seeds purchased from the Winton Nurseries. Received April 30, 1925.

In South Africa these liliaceous plants are known as "chinkeriches." They have become popular in that country as ornamentals. When dried the flowers retain their form and color admirably and for this reason can be used as "everlastings."

63846. *ORNITHOGALUM* sp.

Cream colored.

63847. *ORNITHOGALUM* sp.

Double white.

63848. *ORNITHOGALUM* sp.

Orange colored.

63849. *ORNITHOGALUM* sp.

White.

63850 to 63852. *AMYGDALUS PERSICA* L.
(*Prunus persica* Stokes). Amygdalaceae. Peach.

In 1913 seeds of the *Shatil* peach were introduced from the Kurram Valley, Northwest Provinces, India. The following seedlings, grown at the Plant Introduction Garden, Chico, Calif., appear worthy of propagation and are therefore assigned numbers, April, 1925, for convenience in distribution.

63850. Fruit round to oval, small, 2 inches in diameter; cavity of medium depth, rather broad; suture shallow; skin light yellow, thin, tender, heavily pubescent, separating easily from the flesh; flesh golden yellow, medium juicy, little fiber, slightly lacking in sugar, fair quality, not stained around the pit; pit $1\frac{1}{4}$ inches by 1 inch, brown, sharply pointed. A freestone. The tree is large and vigorous and has proved very satisfactory at Chico as stock. The fruits are good for drying and also for canning. Ripens at Chico, Calif., about the third week in August. (Row 18, tree 1, old test nursery.)

63851. Fruit nearly round or oval, $2\frac{1}{4}$ by 2 inches; cavity of medium depth, fairly abrupt, slightly elongated along suture; suture distinct, very shallow; apex with very small point; skin golden yellow, rather thick but tender, heavily pubescent, separating easily

63850 to 63852—Continued.

from the flesh; flesh golden yellow, tending soft, juicy, little fiber, slightly lacking in sugar, only slightly stained around pit; pit $1\frac{1}{2}$ inches by 1 inch, pinkish, very sharply pointed. A freestone. The tree is fast growing, vigorous, and prolific, and the fruits are excellent for table use and could also be used for canning and drying. Ripens at Chico, Calif., about the third week in August. (Row 18, tree 2, old test nursery.)

63852. Fruits medium sized, $2\frac{1}{2}$ by $2\frac{1}{4}$ inches, oval or nearly so, slightly oblique at base; cavity broad, fairly deep; suture medium apex with small point; skin golden yellow, thick, tough, adhering to flesh, pubescence very heavy; flesh golden yellow, tending juicy, firm, tough, rather flat, lacking in sugar, not stained near pit; pit 1 by $1\frac{1}{4}$ inches extended into a sharp point. This attractive clingstone peach, which appears to have promise for canning, ripens at Chico, Calif., about the third week in August. (Row 18, tree 4, old test nursery.)

63853 and 63854. *GARCINIA* spp. Clusiaceae.

From Manila, Philippine Islands. Seeds presented by the acting Director of Agriculture, Bureau of Agriculture. Received May 6, 1925.

63853. *GARCINIA BINUCAO* (Blanco) Choisy.
Binukao.

The binukao, a relative of the mangosteen, is a handsome tree which is very common in certain parts of the Philippine Islands, notably in Luzon and the Visayan Islands. W. H. Brown, in *Wild Food Plants of the Philippines*, states that the yellowish rounded fruits, nearly 2 inches in diameter, with a very acid pulp and numerous seeds, are eaten with fish by the Filipinos. The small red flowers are borne in dense clusters. The binukao will probably not endure low temperatures, since it comes from a tropical region.

For previous introduction see S. P. I. No. 59376.

63854. *GARCINIA VENULOSA* (Blanco) Choisy.

Like the preceding [S. P. I. No. 63853], the *katuri* is also a wild Philippine relative of the mangosteen. It is described by P. J. Wester (*Food Plants of the Philippines*, p. 105) as a tree about 40 feet high, with large oblong leathery leaves, which is widely distributed throughout the Philippines, but not cultivated. The round fruits, about 2 inches in diameter, have an acid pulp containing several flat seeds. The natives eat this fruit with fish, and it would probably make good preserves.

63855. *CAREX PUMILA* Thunb. Cyperaceae. Sedge.

From New Zealand. Seeds presented by W. C. Coker, University of North Carolina, through A. S. Hitchcock, Bureau of Plant Industry. Received May 9, 1925.

Sent by Captain Ellis, State forester of New Zealand, who says this is the best sand binder of that country. (Coker.)

63856 to 63866. OLEA EUROPAEA L.
Oleaceae. Olive.

From Pescia, Province of Lucca, Italy. Plants purchased from E. d'Uliva & Fratelli. Received May 11, 1925. Notes taken from the catalogue of d'Uliva & Fratelli.

A collection of Italian varieties, not known in the American trade, introduced for trial in the olive-growing sections of the United States.

63856. Ascolana. A canning variety cultivated from time immemorial in Ascoli. It is a constant and abundant fruiter, with large, dark-green, lightly undulate leaves. The large fruits are almost spherical, with rich, delicate flesh of pleasant flavor; the seed is small.

63857. Asiolani.

63858. Dolce del Marocco. A variety with fruits larger than those grown for oil, especially adapted for drying.

63859. Enifuolo.

63860. Frantoi. Cultivated for oil.

63861. Grappolo. Rather large olives, produced in clusters. The fruits are rich in oil.

63862. Lecci. A vigorous variety cultivated for oil.

63863. Maurini. An excellent new variety, producing oil of good quality.

63864. Racemo. A prolific variety, disease resistant, with ashy green leaves; the ovoid fruits are rich in oil.

63865. Moraioli. A vigorous drought-resistant and disease-resistant variety which yields an abundance of oil of good quality.

63866. Zantis.

63867. BRASSICA SP. Brassicaceae.

From Kwangtung Province, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 7, 1925.

No. 118. March 9, 1925. *Yau tsoi*. Seeds collected from plants which had escaped from cultivation, growing along the bank of the West River near Lohyanchung. (McClure.)

63869. NEOGLAZIOVIA VARIEGATA (Ar-ruda) Mez (Billbergia variegata Schult.). Bromeliaceae.

From Bahia, Brazil. Plants obtained from Dr. H. H. Brown, St. Albans, Vt., through L. H. Dewey, Bureau of Plant Industry. Received May 6, 1925.

The carofá is a plant 4 or 5 feet high, of the same family as the pineapple, and is found wild in the caatingas or dry regions of eastern Brazil. The natives extract the fiber for the purpose of making baskets, ropes, and hammocks, but the quantity obtained is not sufficient for export. It is now introduced for trial in the southern United States by fiber-plant specialists. It is also being tested as a possible paper material.

63869 to 63875.

From Kwangtung Province, China. Seeds and rhizomes collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 7, 1925. Notes by Mr. McClure.

63869. PISUM SATIVUM L. Fabaceae. Pea.

No. 119. Village of Heunglokeuk, March 13, 1925. *Maak tau, Suet tau, Chun tau*. Seeds of a sturdy, low-growing, self-supporting vine which produces, in fair abundance, rather large peas of good flavor and quality. The flowers are very ornamental, the lower petal being pale lavender, the next pair wine red, and the inner pair pink. This variety, planted here in November, begins to bear in December or January and continues until March.

63870 to 63875. (Undetermined.) Po-aceae. Bamboo.

63870. (Undetermined.)

No. 108. March 14, 1925. *Kom chuk*. A variety growing wild along a small stream in the Chunwong Mountains, near the village of Heunglokeuk, at an altitude of 300 meters. The young shoots of this bamboo are highly esteemed by the Chinese of this neighborhood. This bamboo, as seen in its native habitat, is rather small in stature, being only 2 to 2.5 meters in height and 1 to 1.5 centimeters in diameter between the lower nodes. Its best shoots are produced on the loose silt loam banks of the stream, but it can not hold its own here so well as on the wet sand and gravel at the edge of the water, where it produces an impenetrable network of rhizomes. It might be used to excellent advantage for preventing erosion in such situations.

63871. (Undetermined.)

No. 109. March 14, 1925. *Wong kom chuk*. Obtained from the wild, at an altitude of 300 meters, in the Chunwong Mountains, near Heunglokeuk. A dense grove of this bamboo, whose canes are about 3 meters in height and 1.5 to 2 centimeters in diameter between the lower nodes, completely conceals the tiny stream, along which these rhizomes were growing, for a considerable distance. This variety, like No. 108 [S. P. I. No. 63870], forms its toughest and most impenetrable network of rhizomes in the wet sand immediately at the edge of the water, but its finest shoots are produced in the rich-brown loose soil of the bank near by. The shoots are edible, but the Chinese say that it is necessary to parboil them in order to remove the slightly bitter taste. The canes are put to a number of uses, particularly to the weaving of garden fences. The upper portions of the canes, with their numerous, slender side branches, are bound into brooms which are widely used locally and are shipped even as far as Canton.

63872. (Undetermined.)

No. 110. March 14, 1925. *Fat t'o chuk, Fat chuk*. These rhizomes are from the native vegetation in a ravine near Heunglokeuk, in the Chunwong Mountains, where this variety had been planted. This is another relatively small bamboo (2 to 2.5 meters high

63869 to 63875—Continued.

and 2 centimeters in diameter), whose edible shoots are considered a close second in quality to those of No. 108 [S. P. I. No. 63870]. This variety begins to sprout in early April, and here again, as elsewhere observed, I found the best shoots growing in damp loose loam. A peculiar characteristic of the canes is that prominent swellings occur just below the lower nodes, which are quite close together. The name Fat t'o probably refers to this peculiarity. In earlier days the lower sections of these canes brought a good price for handles of fans, but in recent years they are more in demand as pipe stems.

63873. (Undetermined.)

No. 111. Near the village of Heung-lokeuk. March 14, 1925. *Kan chuk*. This bamboo is commonly planted on the mountain sides and allowed to shift for itself among the native vegetation. Under these conditions the plant attains a height of 2 to 3 meters and a diameter of 1.5 to 2 centimeters. The coarse red soil in which these plants were growing is formed from granite. A thin layer of dark soil accumulates where the natural vegetation is permanent. The bamboo flourishes best, of course, where this layer is thickest. The young shoots are eaten, being taken just as they appear at the top of the ground. Its season begins about the middle of April.

63874. (Undetermined.)

No. 112. March 13, 1925. This bamboo was growing near the village of Heunglokeuk, where it is allowed to shift for itself among the native vegetation on the steep banks of a ravine. The canes reach a height of 4 meters and a diameter of 2 to 2.5 centimeters between the nodes in the habitat described, but the variety is said to become much larger under more favorable cultural conditions. The young shoots are of excellent quality and fair size. Their season begins in April.

63875. (Undetermined.)

[Sent in without notes.]

63876 to 63879. PISUM SATIVUM L.
Fabaceae. Pea.

From Wellington, New Zealand. Seeds obtained from F. Cooper, through D. N. Shoemaker, Bureau of Plant Industry. Received May 8, 1925.

Locally developed strains.

63876. *Austral*.

63877. *Richard Seddon*.

63878. *Te Aroha*.

63879. *Wellington*.

63880 to 63889. PISUM SATIVUM L.
Fabaceae. Pea.

From Bretigny sur Orge, France. Seeds obtained from L. Clause, through D. N. Shoemaker, Bureau of Plant Industry. Received May 8, 1925.

Locally developed strains.

63880 to 63889—Continued.

63880. *Duc de Manchester*.

63881. *Gris de Printemps*.

63882. *Gris d'Hiver*.

63883. *Gros blanc géant Victoria*.

63884. *Gros vert pour grande culture*.

63885. *Mangetout Nain Debeve*.

63886. *Sabre, race de Paris*.

63887. *Serpette améliorée, race de Paris*.

63888. *Trophy, très tardif*.

63889. *Union Jack*.

63890 to 63894. GOSYPIUM BARBADENSE
L. Malvaceae. Cotton.

From Egypt. Seeds presented by R. H. Forbes, Compagnie Générale des Colonies, Kulikoro, French Sudan, French West Africa. Received May 6, 1925. Notes by Mr. Forbes.

The following seeds are from the Bahtien Farm.

63890. No. 46a. *Saka. Fathi*.

63891. No. 46b. *Upper Egypt*.

63892. No. 46c. *Saka. Pilon*.

63893. No. 46d. *Saka. Ashmouni*.

63894. No. 46e. *Saka. Cazzouli*.

63895 to 63900.

From Tammisto, Malm, Finland. Seeds presented by J. O. Saulis, manager of the plant-breeding station, through C. R. Ball, Bureau of Plant Industry. Received May 12, 1925.

A collection of local varieties originated at Tammisto.

63895 to 63897. AVENA SATIVA L. Poaceae. Oats.

63895. *Esa*.

63896. *Pelso*.

63897. *Vyto*.

63898 and 63899. HORDEUM DISTICHON PALMELLA Harlan. Poaceae.

Two-rowed barley.

63898. *Halikko No. 2*.

63899. *Uurainen*.

63900. HORDEUM VULGARE PALLIDUM Seringe. Poaceae. Six-rowed barley.

Early 0283.

63901 to 63904. ORYZA SATIVA L. Poaceae. Rice.

From Jorhat, India. Seeds presented by Dr. S. K. Mitra, Economic botanist to the Government of Assam. Received May 8, 1925.

The following varieties are from the Karimganj Farm.

63901. No. S-149. *Indra Sail*.

63902. No. S-156. *Nagra Sail*.

63903. No. S-159. *Dudshar*.

63904. No. S-232. *King's Own*.

63905 and 63906. TRITICUM AESTIVUM
L. (*T. vulgare* Vill.). Poaceae.
Common wheat.

From Tammisto, Malm, Finland. Seeds presented by J. O. Saulis, manager of the plant-breeding station, through C. R. Ball, Bureau of Plant Industry. Received May 12, 1925.

Local varieties originated at Tammisto.

63905. *Winter Sukkula.*

63906. *Spring Tammi.*

63907. LYCOPERSICON ESCULENTUM Mill.
Solanaceae. Tomato.

From Bordeaux, France. Seeds presented by Prof. L. Beille, director, Jardin Botanique de Talence. Received May 7, 1925.

Var. *cerasiforme*. A yellow-fruited form of the cherry tomato.

63908 to 63967.

From Chihli Province, China. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received May 5, 1925. Notes by Mr. Dorsett.

63908. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

No. 2393. March 14, 1925. *T'u t'ao* (wild peach) from Lijetsu, which is a big deciduous fruit-growing section in an immense broad level valley near Paotingfu. This variety is also called "earth peach" by the natives. It is used for stock upon which to graft or bud the commercial varieties.

63909. BENINCASA HISPIDA (Thunb.) Cogn. Cucurbitaceae. Wax gourd.

No. 2408. Loutai, near Peking. March 17, 1925. A winter variety.

63910 to 63915. BRASSICA spp. Brassicaceae.

Paotingfu. March 10, 1925.

63910. BRASSICA sp.

No. 2327. *Anhsu ta pai ts'ai* (large Anhsu cabbage). This variety is planted the latter part of July, later transplanted, and during October it is cut and stored in the cellar. The average weight is 15 to 16 pounds.

63911. BRASSICA sp.

No. 2328. *Pao tou pai ts'ai* (folding head cabbage), planted in July and later transplanted. This variety, the leaves of which fold in, grows to a height of about 14 inches and weighs 12 to 13 pounds.

63912. BRASSICA sp.

No. 2329. *Hsiao pai k'ou pai ts'ai* (small white mouth cabbage). A variety, about 12 to 13 inches high and with the leaves spreading out, which is planted in July or earlier. It is not commonly planted, but is said to be of very good quality.

63913. BRASSICA sp.

No. 2330. *Ho t'ao wen pai ts'ai* (walnut-hulled cabbage), commonly planted here. This variety, the head resembling a walnut hull, grows 13

63908 to 63967—Continued.

to 14 inches in height and weighs about 8 to 10 pounds.

63914. BRASSICA sp.

No. 2331. A variety which is said to have a diameter of 4 to 6 inches.

63915. BRASSICA sp.

No. 2332. *Shansi pe'i lan* (kohlrabi of Shansi). This seed came from Shansi Province and is said to grow to 8 or more inches in diameter.

63916. CANNABIS SATIVA L. Moraceae. Hemp.

No. 2335. Paotingfu. March 10, 1925.

63917 and 63918. CITRULLUS VULGARIS Schrad. Cucurbitaceae. Watermelon.

63917. No. 2333. Paotingfu. March 10, 1925. *Ta hei kuan hsi kua* (large black-vase watermelon), said to have originally come from Shantung Province. This variety grows from 10 to 15 inches in diameter and 16 to 18 inches in length; the skin is black and the flesh yellow.

63918. No. 2334. Paotingfu. March 10, 1925. A small red-seeded watermelon also said to have originally come from Shantung Province. It is a red-fleshed, yellow-skinned variety about 8 inches in diameter and 16 to 20 inches in length.

63919. EUCONYMUS sp. Celastraceae.

No. 2318. En route from Mentoukou to Toli. *Niang niang ch'uan* (empress hand). Obtained from a shrub growing out of the top of a monk's tomb or monument in what is known as Tartar Cemetery.

63920 and 63921. FAGOPYRUM VULGARE Hill (*F. esculentum* Moench). Polygonaceae. Buckwheat.

63920. No. 2355. Poyi. March 11, 1925. A locally grown variety.

63921. No. 2386. Shenchou. March 14, 1925. A locally grown variety.

63922. HIBISCUS CANNABINUS L. Malvaceae. Ambari hemp.

No. 2338. Paotingfu. March 10, 1925. *Ching ma* (green hemp). A locally grown variety.

63923. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.) Poaceae. Sorghum.

No. 2413. Loutai. March 17, 1925. A sticky white variety.

63924. HORDEUM sp. Poaceae. Barley.

No. 2341. Paotingfu. March 10, 1925. Called "king barley" or "awn barley."

63925. HORDEUM sp. Poaceae. Barley.

No. 2397. Tunkechuang. March 15, 1925. Called by the Chinese "rice barley."

63926. HORDEUM sp. Poaceae. Barley.

No. 2411. Loutai. March 17, 1925. These seeds are also called "rice barley" by the Chinese.

63927 and 63928. PANICUM MILIACEUM L. Poaceae. Proso.

63927. No. 2400. Loutai. March 17, 1925. An early variety which is used mostly for food during the New Year season.

63908 to 63967—Continued.

63928. No. 2409. Loutai. March 17, 1925. Seeds of a sticky variety of millet.
- 63929 to 63934. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceae. **Adsuki bean.**
63929. No. 2348. Paotingfu. March 10, 1925. A small black variety.
63930. No. 2352. Poyi. March 11, 1925. Small white beans.
63931. No. 2404. Loutai. March 17, 1925. A small bean mottled gray and black.
63932. No. 2405. Loutai. March 17, 1925. A variety having small red beans.
- 63933 and 63934. No. 2412. Peking. March 17, 1925. A small variety which appears to be a mixture.
63933. A. Light-brown variety.
63934. B. Dirty straw-colored variety.
- 63935 to 63938. *PHASEOLUS AUREUS* Roxb. Fabaceae. **Mung bean.**
63935. No. 2351. Paotingfu. March 10, 1925. A locally grown green variety.
63936. No. 2354. Poyi. March 11, 1925. A locally grown green variety.
63937. No. 2383. Shenchou. March 14, 1925. This is another locally grown green variety.
63938. No. 2398. Loutai. March 17, 1925. A yellow variety.
63939. *PHASEOLUS VULGARIS* L. Fabaceae. **Common bean.**
- No. 2336. Paotingfu. March 10, 1925. A large red garden bean imported from northwestern China.
- 63940 to 63951. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. **Soy bean.**
- 63940 to 63950. Locally grown varieties.
63940. No. 2344. Paotingfu. March 10, 1925. A black variety.
63941. No. 2345. Paotingfu. March 10, 1925. *Ch'a tou* (tea soy bean). A large dark-brown variety.
63942. No. 2346. Paotingfu. March 10, 1925. This is a large green soy bean.
63943. No. 2347. Paotingfu. March 10, 1925. Small yellow variety.
63944. No. 2349. Paotingfu. March 10, 1925. Small green soy bean.
63945. No. 2353. Poyi. March 11, 1925. Green variety.
63946. No. 2357. Poyi. March 11, 1925. A large green soy bean.
63947. No. 2359. Poyi. March 11, 1925. This is a rather small black variety.
63948. No. 2381. Shenchou. March 14, 1925. A small black soy bean.
63949. No. 2382. Shenchou. March 14, 1924. A large deep-green variety.

63908 to 63967—Continued.

63950. No. 2384. Shenchou. March 14, 1925. This variety is small and light green.
63951. No. 2406. Loutai. March 17, 1925. *Ch'a tou* (tea soy bean). A variety having large mahogany-brown seeds.
63952. *SPINACIA OLERACEA* L. Chenopodiaceae. **Spinach.**
- No. 2337. Paotingfu. March 10, 1925. *Paoting po ts'ai* (spinach of Paotingfu). A locally grown variety.
- 63953 to 63957. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. **Common wheat.**
63953. No. 2350. Paotingfu. March 10, 1925. A locally grown winter wheat.
63954. No. 2356. Poyi. March 11, 1925. Locally grown winter variety.
63955. No. 2387. Shenchou. March 14, 1925. Winter wheat which is locally grown.
63956. No. 2402. Loutai. March 17, 1925. White wheat, which is said to make the best flour.
63957. No. 2410. Loutai. March 17, 1925. Spring wheat.
- 63958 and 63959. *VIGNA SESQUIPEDALIS* (L.) Fruwirth. Fabaceae. **Yard Long bean.**
63958. No. 2339. Paotingfu. March 10, 1925. A rather small, reddish, locally grown bean called by the Chinese "vegetable bean."
63959. No. 2401. Loutai. March 17, 1925. A terra-cotta colored variety also called "vegetable bean."
- 63960 to 63965. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. **Cowpea.**
63960. No. 2342. Paotingfu. March 10, 1925. A locally grown brown-eyed cowpea.
63961. No. 2343. Paotingfu. March 10, 1925. A pink cowpea mottled pink and white which is said to be locally grown.
63962. No. 2358. Poyi. March 11, 1925. A locally grown brown-eyed cowpea.
63963. No. 2385. Shenchou. March 14, 1925. A locally grown variety mottled brown.
63964. No. 2388. Shenchou. March 14, 1925. This is a brown-eyed variety which is locally grown.
63965. No. 2403. Loutai. March 17, 1925. A brown mottled cowpea.
- 63966 and 63967. *ZEA MAYS* L. Poaceae. **Corn.**
63966. No. 2399. Loutai. March 17, 1925. An early yellow flint corn.
63967. No. 2407. Loutai. March 17, 1925. A late yellow flint variety.
63968. *BAUHINIA BLAKEANA* Dunn. Caesalpiniaceae.
- From China. Cuttings collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 20, 1925.

No. 122. Hong Kong Botanic Gardens. April 4, 1925. *Tsz king, Hung fa tsz king*. A beautiful tree 10 meters high, with gray to buff-colored bark and large deep-green 2-lobed leaves whose shape suggests the common English name, "camel's foot." The deep-red flowers of this species are enormous compared with those of the other species known here (being as much as 7 centimeters in diameter), and are borne abundantly. They occur in long spikes, opening one floret at a time progressively from the bottom. The species is not known to have produced fruits here, the pistil dropping from the receptacle with the rest of the flower. Mr. Green, the superintendent of the gardens, says he has tried hand pollinating without success. The advantage of this species as far as the conditions here are concerned is that it is evergreen, its foliage being very healthy and verdant throughout the year, and that its flowers open during the winter months before the advent of the June bugs (usually in March or April), from whose voracious appetites no ornamental is immune. (*McClure*.)

63969. ORYZA SATIVA L. Poaceae.

Rice.

From Bangkok, Siam. Seeds presented by Phya Sihasakti Snidvongs, Director of Agriculture, through Dr. H. M. Smith, director Siamese Bureau of Fisheries. Received June 15, 1925.

A locally grown strain.

63970 and 63971. SESBAN spp. Fabaceae.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, division of botany. Received June 18, 1925.

63970. SESBAN AEGYPTIACUM Poir.

A stout shrubby plant, 6 to 10 feet in height, which, according to J. F. Rock (*The Leguminous Plants of Hawaii*, p. 154), is native in tropical Asia and northern Australia. The yellow flowers, spotted with purple, are borne in axillary clusters about 4 inches long. In Australia the leaves are much relished by livestock, and the wood is used in making charcoal for gunpowder.

63971. SESBAN CINERASCENS Welw.

Like the preceding, this tropical African shrub, according to Oliver (*Flora of Tropical Africa*, vol. 2), has yellow flowers spotted with purple. It has a graceful habit, with slender branches and compound leaves composed of 15 to 20 pairs of leaflets. The flowers are in lax clusters, and the pods are up to a foot in length.

63972. POA FLABELLATA (Lam.) Hook. f. Poaceae.

Tussock grass.

From Kew, Surrey, England. Seeds presented by Dr. Thomas V. Chipp, Royal Botanic Gardens. Received June 18, 1925.

These seeds originally came from the Falkland Islands. (*Chipp*.)

According to Hogg (*Vegetable Kingdom*, p. 823), this is a coarse grass which grows on peaty soil near the sea in the Falkland

Islands. It forms dense masses of stems which frequently rise to the height of from 4 to 6 feet, and the long tapering leaves hang over gracefully in curves, from 5 to 8 feet long and an inch wide at the base. The plant is much relished by cattle, being very nutritious and containing saccharin. The inner portion of the stem a little way above the root is soft and crisp and flavored like a hazelnut; the inhabitants of the Falkland Islands are very fond of it. They also boil the young shoots and eat them like asparagus.

63973 and 63974. PHALARIS BULBOSA Jusl. Poaceae.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received June 22, 1925.

A perennial, tufted grass, 2 to 3 feet high, with shiny leaves about two-fifths of an inch wide, native to the Mediterranean countries. It is now cultivated in New South Wales, where it appears to be an excellent permanent winter grass for coastal and table-land districts. It is drought resistant. Seed is difficult to save on account of shattering.

63973. No. 1. Received as *Phalaris coerulescens*, but sample has been identified as *P. bulbosa*.

63974. No. 2.

63975. PHOENIX DACTYLIFERA L. Phoenicaceae.

Date palm.

From Cairo, Egypt. Offshoots purchased through Ernest Wright and Mahmoud Bey Abaza, director of the horticultural section of the Egyptian Ministry of Agriculture, at the request of S. C. Mason, Bureau of Plant Industry. Received June 27, 1925.

The Samany date is one of the most striking and characteristic varieties of Lower Egypt, and by the natives it is counted one of the best. The trees are very heavy bodied and have longer leaves than any other variety I have measured. In fruit the Samany is easily the most striking and peculiar of all the delta varieties. The heavy, compact bunches are borne unevenly on coarse, strong strands, the fruits being about 2½ inches long and 1½ inches broad and rather oblique. The Samany never becomes a packing date, but is gathered hard ripe and used in confections or is eaten in the rutab stage. The offshoots command the highest prices of any variety in Egypt, for the reason that they are in great demand for planting in the gardens of the new country and suburban places around Alexandria. The feature that makes the Samany of especial promise is its ability to succeed in the cool, humid climate of the coastal region. (*Mason*.)

63976. BAMBOS sp. Poaceae. Bamboo.

From Algiers, Algeria. Plant collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 6, 1925.

Jardin d'Essais. A beautiful blue-stemmed species which is distinguished by the culm sheaths either being entirely devoid of ligules or else the ligules are very evanescent. (*Fairchild*.)

63977. GENISTA SPHAEROCARPA Lam.
Fabaceae.

From Morocco. Cuttings collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 24, 1925.

From near Demnat. May 31, 1925. A charming drooping desert shrub covered with delicate brilliant yellow flowers somewhat resembling small orchids. (*Fairchild*.)

63978 to 63997.

From Paris, France. Seeds presented by Prof. D. Bois, Paris Museum of Natural History. Received June 5, 1925.

A collection introduced chiefly for testing as forage plants.

63978 to 63983. ASTRAGALUS spp. Fabaceae.**63978. ASTRAGALUS BUBALOCERAS Maire.****63979. ASTRAGALUS FRIGIDUS A. Gray.**

A perennial upright or ascending, entirely unbranched or with very few branches. Native to alpine slopes throughout northern Europe and Asia.

63980. ASTRAGALUS GALEGIFORMIS L.

A perennial upright, slightly hairy plant 1 to 3 feet high, native to southeastern Europe and Asia Minor.

63981. ASTRAGALUS GLYCYPHYLLOIDES DC.

A perennial plant with ascending stems and rather large oval leaflets. Native to eastern Europe and Asia Minor.

63982. ASTRAGALUS HAMOSUS L.

An annual gray-green hairy plant with prostrate or ascending stems 8 inches to a foot in length. Native to sunny places in the Mediterranean countries.

63983. ASTRAGALUS PONTICUS Pall.

A hairy-stemmed species with dense axillary flower heads. Native to southern Russia.

63984. ERODIUM CICONIUM (Jusl.) Willd.
Geraniaceae.

An annual hairy plant, belonging to the geranium family, with stout ascending branches, oval leaves, and purple flowers. Native to southern Europe and Asia Minor.

63985. ERODIUM MANESCAVI Coss. Geraniaceae.

A perennial plant, belonging to the geranium family, about a foot and a half high, with narrow leaves 6 inches or more in length and rosy purple flowers about 2 inches across. It grows wild in the Pyrenees Mountains.

63986. GAUDINIA FRAGILIS (L.) Beauv.
Poaceae. Grass.

An annual ascending grass, 8 inches to 2 feet high, with thick, roughly hairy leaves, confined almost entirely to the Mediterranean countries.

63987. JACARANDA CHELONIA Griseb. Bignoniaceae.**63978 to 63997—Continued.**

An Argentinian tree, sometimes as much as 90 feet tall, with a rounded habit and attractive fernlike foliage. The large blue flowers are in terminal panicles a foot long. The wood is valued in Argentina for cabinetwork.

63988 to 63990. MELICA spp. Poaceae.

Grass.

63988. MELICA ALTISSIMA L.

A rather tall perennial European grass, 3 to 4 feet in height, with creeping rhizomes, which forms a loose turf. The leaf sheaths and the backs of the leaves are very rough.

63989. MELICA CILIATA L.

A gray-green perennial grass, with stolons 4 inches or more long and stems up to 3 feet in height. The leaf blades are narrow, with rough, bristly margins. Native to rocky places in eastern Europe.

63990. MELICA UNIFLORA Retz.

A bright-green perennial grass, native to shady humid places in eastern Europe. The creeping rhizome is about 4 inches long, and the thick lax stems bear three or four narrow leaves.

63991. PASPALUM RACEMOSUM Lam. Poaceae.

A tropical American grass which is best adapted to the moist or alluvial soils of the Southern States. It grows from a rootstock, with rather coarse tender stems and leaves, reaching a height of about 2 feet. It has promise as a hay or pasture grass. (*C. V. Piper, Bureau of Plant Industry.*)

63992. PHLEUM PHLEOIDES (L.) Karst. (P. boeheimeri Wibel.). Poaceae. Grass.

A perennial, gray-green, loosely caespitose grass, with a short creeping rhizome and stems 1 to 2 feet high. Native to dry stony places throughout central Europe.

63993. POECILANTHE PARVIFLORA Benth. Fabaceae.

The *lapachillo*, as it is called in its native home on the Uruguay River, is a tree of great beauty, with its finely divided leaves and small but dense clusters of pink flowers. The heartwood is dark brown, very hardy, heavy, and durable.

63994. TRIFOLIUM RUBENS L. Fabaceae.

A perennial clover with a widely creeping rhizome and upright glabrous stems 1 to 2 feet high. Native to rocky places and thickets in the Mediterranean region.

63995. TRIFOLIUM SQUARROSUM L. Fabaceae.

An upright or ascending robust annual, with branches up to 30 inches in length, native to the Mediterranean countries. The pink or white flower heads are oval when young, becoming more elongated later.

63996. TRIGONELLA ENSIFERA Trautv. Fabaceae.

An annual leguminous plant, very closely allied to the fenugreek (*Trigonella foenum-graecum*), from which it differs chiefly in having hairy pods and the lack of odor in its seeds. Its native country is unknown.

63978 to 63997—Continued.

63997. *TRIGONELLA HAMOSA* L. Fabaceae.

An annual leguminous plant, native to northern Africa and Asia Minor, with elongated prostrate stems up to 2 inches long.

63998 to 64001.

From Sydney, New South Wales. Seeds presented by J. A. Whittet, agrostologist, New South Wales Department of Agriculture. Received June 22, 1925.

63998. *ACACIA ANEURA* F. Muell. Mimosaceae.

In New South Wales, where this tall shrub is native, it is known as the mulga, or yarren, and in times of severe drought it is considered a good source of forage for livestock. The wood is very hard and is valued as timber.

63999. *ACACIA PENDULA* A. Cunn. Mimosaceae.

A handsome evergreen tree, native to Australia, where the leaves and young branches are eagerly eaten by cattle and sheep. In times of drought the myall, as the tree is called in Australia, is frequently cut down and fed to stock, which seem to thrive on this fodder. Horses do not care for it.

For previous introduction see S. P. I. No. 62867.

64000. *GEIJERA PARVIFLORA* Lindl. Rutaceae.

The wilga is a tall shrub or a tree, native to the interior of New South Wales, where it reaches a height of about 30 feet. It has slender pendulous branches, narrow leaves 3 to 6 inches long, and when well developed has a highly ornamental appearance with something of the aspect of a weeping willow. It has remarkable drought-enduring qualities, and the leaves are often fed to sheep, which are very fond of them.

For previous introduction see S. P. I. No. 62865.

64001. *STERCULIA DIVERSIFOLIA* Don. Sterculiaceae.

A tall evergreen Australian tree with shining green foliage. In New South Wales it is called the "kurrajong." The leaves are fed to cattle in the arid interior lands. This may be the same as the tree now grown in California under the same name.

For previous introduction see S. P. I. No. 49002.

64002 and 64003. *Gossypium* spp. Malvaceae. Cotton.

From Rabat, Morocco. Seeds presented by Em. Miège, chief, Service de l'Expérimentation Agricole au Maroc. Received June 23, 1925.

Sar-sar cotton. According to its discoverer, Mr. Miège, this cotton has been given the name of the native tribe which has been growing it from time immemorial. In all probability it is a hybrid between *Gossypium peruvianum* and *G. punctatum*. As described by Mr. Miège, in his Note sur un Cotonnier Marocain, published in the Annales du Musée Colonial de Marseille, series 4, vol. 2, 1924, this is a variety which in actual tests in Rabat and Casa

Blanca has proved to possess an unusual degree of precocity, resistance to drought, and length of fiber and strength which classes it with the Yuma in value to the spinners. While still unimproved sufficiently to be called a pure cotton, its behavior under the dry-land conditions of Morocco on laterite silicious soils where the rainfall is only 800 millimeters per year warrants its being thoroughly studied by American cotton breeders. (David Fairchild, Bureau of Plant Industry.)

64002. *Gossypium* sp.

Seeds from the 1923 crop.

64003. *Gossypium* sp.

Seeds from the 1924 crop.

64004. *HORDEUM VULGARE PALLIDUM* Ser nge. Poaceae. Six-rowed barley.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received June 23, 1925.

Orge Chedret. Collected in the Sahara Desert. April, 1925. (Trabut.)

64005. *IRIS PUMILA* L. Iridaceae.

From Tiflis, Georgia, Caucasus. Seeds presented by the director of the botanic garden. Received June 30, 1925.

Var. *violacea*.

A dwarf hardy iris with linear leaves 2 to 4 inches long, stemless or nearly so, with bright-blue flowers. It is native to southeastern Europe and Asia Minor, and under cultivation spreads rapidly.

64006 to 64013. *MUSA PARADISIACA SAPIENTUM* (L.) Kuntze. Musaceae. Banana.

From Honolulu, Hawaii. Suckers presented by Willis T. Pope, horticulturist, Hawaii Agricultural Experiment Station. Received May, 1925.

64006. The *Brazilian*, as it is known locally, is considered by some authorities as the finest variety in the Hawaiian Islands for eating raw. According to Bulletin 7 of the Hawaii Agricultural Experiment Station, page 45, it was introduced into Hawaii from Tahiti about 1855 and probably is the same as the variety known in Java as pisang rajah or pisang medji, the "dessert banana." The plant is a vigorous grower, 25 to 35 feet high, roots firmly and withstands winds, ratoons freely and serves as a windbreak for more delicate varieties. The flower end of the fruit is drawn out into a kind of beak. The skin is yellow, easily separating from the fruit. The variety is not satisfactory for shipping, because the fruit falls from the stem.

For previous introduction see S. P. I. No. 58447.

64007. *Chamaluco*. This variety is described as follows in Bulletin 25, Departamento de Agricultura y Trabajo, Porto Rico, page 19: The plant is from 10 to 15 feet in height, with medium-sized leaves, and, when grown in fertile soil, the bunches of fruit are rather large. There are two types, one with green and the other with gray fruits. The greater part of these fruits are eaten cooked at the time when other varieties are ripe.

64006 to 64013—Continued.

For previous introduction see S. P. I. No. 58448.

64008. Chinese. A variety introduced from Tahiti into the Hawaiian Islands about 1855 and described in Bulletin 7 of the Hawaii Agricultural Experiment Station, page 44, as follows: The plant is of very low growth, the fruit of good flavor, and the bunch of large size. It is an excellent variety for shipping.

For previous introduction see S. P. I. No. 58449.

64009. Largo. According to J. E. Higgins (Bulletin 7, Hawaii Agricultural Experiment Station), this variety was introduced into Hawaii from Mexico. The plant is of medium height, and the fruits, borne in long-stemmed bunches, have buttery pink flesh of fair flavor.

For previous introduction see S. P. I. No. 55250.

64010. Porto Rico.

64011. Red Spanish. This variety, also known as Red Jamaica, has red-skinned fruits which are shorter and thicker than those of the Gros Michel, and the bunches are smaller. It is found in the West Indies and Central America. Although the fruits have a pleasant flavor, there is a very limited demand for this variety.

64012. Ice Cream.

64013. Iholena. In Bulletin No. 7 of the Hawaii Agricultural Experiment Station this is described as a low plant, usually about 9 feet high. The rather stout petioles are light green with pink margins, and the young leaves are slightly bronzed on the lower surfaces. The fruits are loosely arranged, in small bunches, and stand out almost at right angles. The mature fruits are angular, and black areas appear on the yellow skin when thoroughly ripe. The flesh is pink. This is regarded as one of the best native bananas for eating raw or cooked.

64014 and 64015.

From Kwangtung Province, China. Collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 20, 1925. Notes by Mr. McClure.

64014. COLOCASIA ESCULENTA (L.) Schott.
Araceae. Taro.

No. 86. Lintan. February 18, 1925. *Tsat tsuen u.* Tubers of a cylindrical variety whose possibilities as to size are expressed in its name, the "seven-inch taro." It is said to be a good yielder and keeps well, and the flavor is excellent. The Chinese use it in making a delicious dish called U Ha, which is prepared by shredding the taro and frying it in deep fat.

64015. MARANTA ARUNDINACEA L., Mar-
rantaceae. Arrowroot.

No. 87. Takhing. February 19, 1925. *Shek chuk u.* These rhizomes were purchased under the name Kaau sun. This variety is eaten to a certain extent by the Chinese, but is quite fibrous and to me not very palatable.

64016 to 64021. VIGNA SINENSIS (Tor-
ner) Savi. Fabaceae. Cowpea.

From Giza, Egypt. Seeds presented by Dr. Tewfik Fahmy, Ministry of Agriculture. Received May 16, 1925.

Locally developed strains.

64016. Dirry No. 2.

64017. Rust Immune.

64018. Baladi.

64019. Dirry No. 4.

64020. Asmerli.

64021. Dirry Nos. 3 and 5.

64022 to 64029.

From Tashkent, Russia. Seeds presented by the Tashkent Experiment Station. Received May 16, 1925.

Locally grown seeds.

64022. HORDEUM VULGARE PALLIDUM Ser-
inge. Poaceae. Six-rowed barley.

64023 to 64026. PHASEOLUS AUREUS Roxb.
Fabaceae. Mung bean.

64023. No. 1. 64025. No. 3.

64024. No. 2. 64026. No. 4.

64027 to 64029. VIGNA SINENSIS (Torner)
Savi. Fabaceae. Cowpea.

64027. No. 1. 64029. No. 3.

64028. No. 2.

64030 to 64044.

From Rio de Janeiro, Brazil. Seeds presented by Dr. Pacheco Leão, director, Botanic Garden. Received May 18, 1925.

64030. ABUTILON RAMIFLORUM St. Hil.
Malvaceae.

This is described by St. Hilaire (Flora Brasiliæ Meridionalis, vol. 1, p. 199) as a shrubby, densely hairy plant with stems up to 6 feet in height, heart-shaped leaves, and panicles of yellow flowers.

64031. AESCHYNOMENE ELAPHROXYLON
(Guill. and Perr.) Taub. Fabaceae.

The ambash has light foliage similar to that of the ordinary acacia, but differs in having very large pealike orange-yellow flowers. It forms at times a trunk 10 inches in diameter, and the wood is exceedingly light, a log 10 feet long weighing only a few pounds. Along the upper Nile it is much used in making rafts and huts. It should be valuable in a great many ways. (Note by H. L. Shantz under S. P. I. No. 61634.)

64032. WENDEROTHIA MATTOGROSSENSIS
(Barb. Rodr.) Piper (*Canavalia mat-*
togrossensis Malmé.). Fabaceae.

A Brazilian vine, described by C. V. Piper (Contributions from the United States National Herbarium, vol. 20, pt. 14) as a slender-stemmed herbaceous plant, with oval membranous leaflets, lilac flowers, and densely hairy pods.

64033. CRACCA ADUNCA (Benth.) Kuntze
(*Tephrosia adunca* Benth.). Fabaceae.

A herbaceous perennial leguminous plant, with a decumbent hairy stem, which grows wild in the dry pastures of Minas Geraes, Brazil.

64030 to 64044—Continued.

64034. *DYSOLOBIUM GRANDE* (Kurz) Prain.
Fabaceae.

A woody climbing plant from the mountains of northeastern India, with bright-green hairy leaves and reddish flowers about an inch broad in racemes 6 to 9 inches long. Probably suited best for growing in southern Florida.

64035. *FLEMINGIA STROBILIFERA* (L.) Ait.
Fabaceae.

An erect purple-flowered shrub, 8 to 10 feet high, with slender velvety branches and oblong leaves with silky lower surfaces. It is native to India. The flowers are in zigzag racemes 3 to 6 inches long, with large bracts which nearly hide the flowers. It is tropical in its requirements and is adapted for growing only in the warmest parts of the United States.

64036. *INDIGOFERA SUFRUTICOSA* Mill. (*I. anil* L.). Fabaceae.

A bushy shrub, 3 to 5 feet high, with hairy pinnate leaves and yellow pealike flowers. It is commonly cultivated throughout the Tropics as a dye plant and is said to be native to tropical America.

64037. *MANIHOT GLAZIOVII* Muell. Arg.
Euphorbiaceae. Ceara rubber.

Ceara rubber, obtained from this tree, is one of the important rubbers of commerce.

For previous introduction see S. P. I. No. 61497.

64038 to 64040. *MEIBOMIA* spp. Fabaceae.

64038. *MEIBOMIA GYRANS* (L. f.) Kuntze
(*Desmodium gyrans*, DC.).
Telegraph plant.

An erect perennial plant, 2 feet or less high, which is said to be useful as fodder. It is native to moist situations in southern and eastern India.

64039. *MEIBOMIA LABURNIFOLIA* (Poir.)
Kuntze (*Desmodium laburnifolium*
DC.).

A white-flowered shrub from the mountainous districts of the tropical Himalayas. The shining green rigid leaflets and white flowers may render the shrub of ornamental value for the Southern States.

64040. *MEIBOMIA PULCHELLA* (L.)
Kuntze (*Desmodium pulchellum*
Benth.).

A red-flowered leguminous shrub with hairy trifoliate leaves, which is native to southern India. The flowers are in spikelike racemes. The plant may have merit as an ornamental shrub for the Southern States, and possibly also as fodder.

64041. *ORMOSIA ARBOREA* (Vell.) Harms.
Fabaceae.

According to Vellozo (*Flora Fluminensis*, p. 303), this tree has arborescent stems, little-branched pinnate leaves, and terminal compound racemes of violet flowers. The oblong pods inclose round red seeds marked with black spots. Native to southern Brazil.

64042 to 64044. *PAVONIA* spp. Malvaceae.

64030 to 64044—Continued.

64042. *PAVONIA PANICULATA* Cav.

A shrub, described (Cavanilles, *Disseritationes*, vol. 1, p. 135) as about 4 feet high, having white hairs, heart-shaped leaves, and yellow flowers about an inch across. Native to Peru.

64043. *PAVONIA SEPIUM* St. Hill.

A Brazilian shrub described by St. Hilaire (*Flora Brasiliæ Meridionalis*, vol. 1, p. 225) as 2 to 6 feet high, with slender terete branches and oval-oblong leaves 3 to 4 inches in length. The solitary golden-yellow flowers are about an inch wide.

64044. *PAVONIA SPINIFEX* (L.) Cav.

A slender shrub, sometimes 20 feet high, with hairy oval heart-shaped leaves and handsome large yellow flowers. It is native to southern South America and yields a fiber said to be of fine texture and excellent quality.

64045 to 64047. *PISUM SATIVUM* L.
Fabaceae. Pea.

From Sydney, New South Wales. Seeds obtained from Anderson & Co., through D. N. Shoemaker, Bureau of Plant Industry. Received May 25, 1925.

Locally developed strains.

64045. *Greenfeast*. A very prolific early dwarf variety grown extensively for market purposes. (*Catalogue of Anderson & Co.*)

64046. *Home Delight*. A second early variety, 18 inches to 2 feet in height, which is strong and vigorous. The foliage and pods are pale green; each pod bears five to six large peas with a fine marrowfat flavor. In a test this variety produced 30½ bushels of peas from a quarter of an acre.

64047. *Richard Seddon*. One of the finest of the early dwarf varieties, having a height of 20 inches. The pods are large and well filled. (*Catalogue of Anderson & Co.*)

64048 to 64051.

From Dunoon, New South Wales. Seeds obtained from H. J. Rumsey, through D. N. Shoemaker, Bureau of Plant Industry. Received May 25, 1925.

Locally developed strains.

64048 to 64050. *PISUM SATIVUM* L.
Fabaceae. Pea.

64048. *Greenfeast*.

For previous introduction and description see S. P. I. No. 64045.

64049. *Richard Seddon*.

For previous introduction and description see S. P. I. No. 64047.

64050. *Te Aroha*. Large dark-green pods. (*Rumsey.*)

64051. *LOTUS TETRAGONLOBUS* L.
Fabaceae.

A purple-flowered annual from the eastern Mediterranean countries, where, according to Bonnier (*Flore Complète de France, Suisse, et Belgique*, vol. 3, p. 43),

64048 to 64051—Continued.

it frequents the edges of cultivated fields, roadsides, etc. It is more or less hairy with obovate leaflets. The edible seeds are sometimes used as a substitute for coffee, and the plant is often cultivated as an ornamental.

For previous introduction see S. P. I. No. 56670.

64052 and 64053. HIPPEASTRUM spp. Amaryllidaceae. Amaryllis.

From Brazil. Bulbs collected by Agnes Chase, Bureau of Plant Industry. Received May 28, 1925. Notes by Mrs. Chase.

64052. HIPPEASTRUM sp.

May 3, 1925. An amaryllis found below the summit of Pontao Crystal, Serra do Caparaó, Minas Geraes, at an altitude of about 8,000 feet.

64053. HIPPEASTRUM sp.

A crimson-flowered amaryllis, about 6 inches long, from the summit of Serra da Gramma, Minas Geraes, at an altitude of about 6,000 feet.

64054 to 64056. BAMBOS spp. Poaceae. Bamboo.

From Kwangtung Province, China. Offshoots collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received June 3, 1925. Notes by Mr. McClure.

64054. BAMBOS sp.

No. 123. Canton Christian College. January 28, 1925. *Tai t'au tim chuk*. A large bamboo, 6 to 10 meters high and 6 to 10 centimeters in diameter, which is the most commonly and extensively cultivated variety around Canton. When the plants become established and the canes reach mature size, they are fertilized during January or February with liquid or well-rotted manure. The earth is then banked up around the base of the clump to a height of about 4 to 6 decimeters, and when the young sprouts appear above this they are unearthed by means of a hoe. This bamboo is a gross feeder and requires much fertilizer in order to make its best growth. It seems to be particular as to the soil.

64055. BAMBOS sp.

No. 124. Canton Christian College. January 28, 1925. *Tiu shi k'au chuk*. A medium-sized bamboo 6 to 8 meters high and 3 to 5 centimeters in diameter, whose young shoots are edible.

64056. BAMBOS sp.

No. 125. Canton Christian College. January 28, 1925. A very large bamboo, attaining in fertile, moist soil a height of 15 meters and a diameter of 12 centimeters. The young shoots are edible and very sweet, hence the name *T'im chuk*.

64057. GLADIOLUS BYZANTINUS Mill. Iridaceae.

From Morocco. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 4, 1925.

From the cork-oak forest of Mamora, near Rabat. April 27, 1925. A slender, delicate species with purple-red flowers and much

more grasslike in habit than the cultivated forms generally. It might give delicacy of form to hybrids. (Fairchild.)

64058 to 64065. CROTALARIA spp. Fabaceae.

From Kirstenbosch, Cape Province, Union of South Africa. Seeds presented by Prof. R. H. Compton, director, National Botanic Gardens. Received June 26, 1925.

A collection of crotalarias, introduced for testing as cover crops.

64058. CROTALARIA CAPENSIS Jacq.

A stout, much-branched South African shrub about 4 feet in height, with broadly oval leaves and pure-yellow flowers in many-flowered racemes.

For previous introduction see S. P. I. No. 59319.

64059. CROTALARIA INCANA L.

A tropical American plant about 3 feet high, erect, branched, and somewhat shrubby, and softly gray pubescent. The yellow flowers are crowded in 12 to 20 flowered elongated racemes 2 to 8 inches long. This plant occurs in waste places throughout the Tropics and is in flower all the year.

For previous introduction see S. P. I. No. 51834.

64060. CROTALARIA LEOLOBA Bartling.

A species from the mountainous districts of northeastern India, and also distributed throughout the East Indies. It is one of the more robust of the herbaceous species, with fine-silky branches and leaves, the latter being oblong and about 2 inches in length.

For previous introduction see S. P. I. No. 59320.

64061. CROTALARIA RETUSA L.

An annual plant, a foot or more high, distributed throughout the Tropics of both hemispheres. The flowers, which are yellow streaked with purple, are in terminal racemes.

For previous introduction see S. P. I. No. 51842.

64062. CROTALARIA SPECTABILIS Roth.

A stout shrub, 3 to 5 feet high, native to India and sometimes cultivated in the Punjab for the sake of its yellowish purple flowers produced in dense lax racemes often 20 inches in length.

For previous introduction see S. P. I. No. 51839.

64063. CROTALARIA STRIATA DC.

A handsome perennial tropical plant, ultimately about 6 feet high, with spikes of yellow flowers. In Guatemala the young leaves are eaten boiled with rice or meat, and the plant is considered good forage.

For previous introduction see S. P. I. No. 52531.

64064. CROTALARIA USARAMOENSIS Baker f.

This East African crotalaria has been tested in Java as a green manure, according to P. J. S. Cramer, director of the Department of Agriculture, Buitent-

64058 to 64065—Continued.

zorg. Doctor Cramer states that it has proved very successful as a green manure when grown in alternation with corn, producing large quantities of vegetation rich in nitrogen. In the cinchona plantations it is very satisfactory, as it endures partial shade and forms a dense low growth which keeps the edges of the terraces together.

For previous introduction see S. P. I. No. 57831.

64065. *CROTALARIA VERRUCOSA* L.

An annual leguminous plant, cosmopolitan in the Tropics, which reaches a height of a foot and a half, with simple oval leaves, and racemes of showy white and blue flowers

For previous introduction see S. P. I. No. 51119.

64066 to 64070.

From Giza, Egypt. Seeds presented by Mah. Abaza, director, horticultural section, Ministry of Agriculture. Received June 27, 1925.

To be tested as green-manure and cover-crop plants.

64066 to 64068. *CROTALARIA* spp. Fabaceae.64066. *CROTALARIA CANDICANS* Wight and Arnott.

A stiffly erect, much-branched, shrubby species, with hairy and somewhat leathery, broadly rounded leaves, and panicles of small silky yellow flowers. Native to southwestern India.

For previous introduction see S. P. I. No. 59318.

64067. *CROTALARIA LEIOLOBA* Bartling.

A species from the mountainous districts of northeastern India and also distributed throughout the East Indies. It is one of the more robust of the herbaceous species, with fine silky branches and leaves, the latter being oblong and about 2 inches in length.

For previous introduction see S. P. I. No. 59320.

64068. *CROTALARIA TETRAGONA* Roxb.

An erect stiff shrub, often 6 feet in height, which grows wild in the Himalayas of northeastern India, ascending to an altitude of 3,500 feet. The silky membranous narrow leaves are sometimes a foot long, and the lemon-yellow flowers are produced in lax racemes 6 inches or more in length.

For previous introduction see S. P. I. No. 59321.

64069. *SESBAN ACULEATUS* (Schreb.) Poir. Fabaceae.

A tall-growing annual plant from tropical and subtropical Asia, which is used there as green manure and also for fodder. It is a vigorous grower and is said to thrive in semiarid regions.

For previous introduction see S. P. I. No. 58978.

64070. *SESBAN SERICEUM* (Willd.) DC. Fabaceae.

An unarmed shrubby annual, often several feet in height, native to the plains

64066 to 64070—Continued.

of Ceylon. The silky pinnate leaves are about a foot in length, and the flowers, pale yellow dotted with red, are in lax racemes.

For previous introduction see S. P. I. No. 59322.

64071 to 64074.

From Kwangtung Province, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received June 30, 1925. Notes by Mr. McClure.

64071. *PISUM SATIVUM* L. Fabaceae. Pea.

No. 147. Ahliuwat, near Taip'ingshi. April 20, 1925. *Suet tau, Chun tsu*. A pea grown rather extensively in this region and promising for two reasons: The vines are self-supporting, and the young pods are tender enough to be eaten. I have eaten them and find them deliciously tender and sweet.

64072. *RUBUS* sp. Rosaceae.

No. 144. En route from Want'ong to Kongt'uen. April 23, 1925. *P'o tsai lak, Tam p'o tsai*. A wild red berry with a flavor somewhat resembling that of a blackberry. The fruits do not separate readily from the receptacle. The brambles are low, being 1½ to 3 feet in height, and very spiny. They seem to be growing well on a red subsoil laid bare by erosion.

64073. *RUBUS* sp. Rosaceae.

No. 145. Near Kongtuen. *She p'auu lak*. A large, globular, loosely organized wild raspberry which bears white flowers. The fruits separate freely from the receptacle. The low herbaceous brambles appear to thrive well on the sandy soil near streams, where they grow in profusion.

64074. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 148. Ahliuwat, near Taip'ingshi. April 20, 1925. *Min nak*. A locally grown wheat sown broadcast in September or October, after the last rice crop is harvested (usually during the month of March), or in time for the first crop of rice. It is sown at about the rate of 24 pounds per acre, and soy-bean cake, peanut cake, or animal excreta are applied as fertilizer.

64075 to 64083.

From Lamao, Bataan, Philippine Islands. Seeds presented by S. Youngberg, acting director, Bureau of Agriculture. Received June 18, 1925.

64075 to 64081. *COIX LACRYMA-JOBI* MAYUEN (Rom.) Stapf. Poaceae. Adlay.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

64075. *Cebu*.64076. *Cotabato*.64077. *Lamao*.64078. *La Union Red*.

64075 to 64083—Continued.

64079. *La Union White*.64080. *Momungan*.64081. *Mount Province*.64082 and 64083. *HOLCUS SORGHUM* L.
(*Sorghum vulgare* Pers.). Poaceae.
Sorghum.64082. *Basso*.64083. *Basso Red*.64084. *COSMOS* sp. Asteraceae.

Cosmos.

From Reading, England. Seeds purchased from Sutton & Sons. Received February 25, 1925. Numbered April, 1925.

Miniature Yellow. A variety with rich-yellow starlike flowers produced in great abundance; the plants form compact bushes about 18 inches high. (*Sutton's Catalogue*, 1924.)

64085. *HIPPEASTRUM* sp. Amaryllidaceae.

From Brazil. Bulbs collected by Agnes Chase, Bureau of Plant Industry. Received June 19, 1925.

Serra do Caparaó, Minas Geraes. This I believe to be the same as the plant seen at Serra da Gramma [S. P. I. No. 64053], which had red lilylike flowers 5 to 6 inches long, borne in twos or threes at the apex of the scape. The leaves are about 2 inches wide and a foot long, and fleshy, like hyacinth leaves. (*Mrs. Chase*.)

64086 and 64087.

From Rabat, Morocco. Bulbs collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 29, 1925. Notes by Doctor Fairchild.

64086. *DIPCADISEROTINUM* Medic. Liliaceae.

A bulbous plant growing about a foot high and producing a slender spike of salmon-colored flowers shaped much like those of a hyacinth. It forms patches in the deep sandy soil of the forest of Mamora.

64087. *LEUCOJUM TRICHOPHYLLUM* Schousb. Amaryllidaceae.

A graceful bulbous plant, 2 feet high, found in the sandy soil in the forest of Mamora. This plant, with its white hanging flowers, three or four on each stem, gives a delicate touch to the border.

64088 and 64089. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortun, director, Estación Experimental Agronomica, through E. W. Brandes, Bureau of Plant Industry. Received June 8, 1925.

Locally developed strains.

64088. *C. O. 210*. 64089. *C. O. 213*.

64090 to 64099.

From Tiflis, Caucasus. Seeds presented by the director of the Botanic Garden. Received May 18, 1925.

64090 to 64099—Continued.

64090 to 64092. *AGROPYRON* spp. Poaceae.
Grass.64090. *AGROPYRON CRISTATUM* (L.) Gaertn.

A perennial thickly caespitose grass, with stout rhizomes, native to southeastern Europe.

64091. *AGROPYRON ORIENTALE* (L.) Roem. and Schult.

An annual much-branched grass, prostrate-ascending in habit, native to sandy places in Asia Minor and Turkestan.

For previous introduction see S. P. I. No. 61389.

64092. *AGROPYRON ORIENTALE LASIANTHUM* Boiss.

An annual grass, thickly branched at the base, with numerous mostly prostrate stems scarcely 8 inches high. Native to Asia Minor and North Africa.

64093. *AVENA BARBATA* Brot. Poaceae.
Grass.

An annual or biennial grass, up to 30 inches in height. Native to southern Europe.

64094. *AVENA LUDOVICIANA* Durieu. Poaceae.
Grass.

An annual or biennial grass, very similar to *Avena sterilis*, but smaller. Native to southern Europe.

64095. *ORYZOPSIS HOLCIFORMIS* (Bieb.) Hack. Poaceae.
Grass.

A perennial grass, with a thick short rhizome and stems 3 feet or more in height. The panicles are a foot or more long. Native to southern and southeastern Europe.

64096. *ORYZOPSIS PARADOXA VIRESCENS* (Trin.) Richter. Poaceae.
Grass.

A perennial densely caespitose grass, with rough stems up to 4 feet in height. The spreading panicles are about 8 inches long. Native to southern Europe and Asia Minor.

64097 to 64099. *TRITICUM* spp. Poaceae.
Grass.64097. *TRITICUM CYLINDRICUM* (Host) Ces. Pass. and Gib.

An ornamental annual grass with stiff, upright stems and narrow leaves. Native to dry sandy places in southern and southeastern Europe.

64098. *TRITICUM SPELTOIDES* (Tausch) Grenier.

A bushy grass, branching from the base, with slender erect stems bearing rough narrow leaves and stiff rather loose spikes of long-awned flowers. It is a native of western Asia, found especially in Syria, and is considered to have been one of the species from which the cultivated wheats were derived.

64099. *TRITICUM TRIUNCIALE* (L.) Gren. and Godr.

A thickly branched annual grass, with ascending stems and flat rough leaves. Native to dry places in the Mediterranean region.

64100. *MEDICAGO SATIVA* L. Fabaceae.
Alfalfa.

From Santiago, Chile. Seeds presented through H. L. Westover, Bureau of Plant Industry. Received May 23, 1925.

Alfalfa seeds received from the Ministerio de Industria y Obras Públicas, Estación Ecológica de Chile. (Westover.)

64101. *CROTON FLORIBUNDUS* Spreng.
Euphorbiaceae.

From Sao Paulo, Brazil. Seeds presented by Amadeu Barbiellini. Received May 23, 1925.

Veíame or *Capixinguí*. A wild tree which produces an abundance of seeds. These constitute an ideal cheap food for domestic fowls especially chickens. (Barbiellini.)

64102. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.

Common wheat.

From Svalof, Sweden. Seeds presented by Dr. A. Ahlman, Svenska Utsädesförsamling. Received May 25, 1925.

Sammeterate. An old unimproved "land" wheat which is still cultivated here and there in central Sweden. It is exceedingly winterhardy and of excellent quality, but has no lodging resistance, is susceptible to rust, and is of relatively low production. (Ahlman.)

64103 to 64108. *ORYZA SATIVA* L. Poaceae.
Rice.

From Nekkeshimachi, Hokkaido, Japan. Seeds presented by Dr. T. Watanabe, director, Kitami branch, Hokkaido Agricultural Experiment Station. Received May 25, 1925. Notes by Doctor Watanabe.

64103. No. 1. *Kitamihake*. A mass variety with awned ears.

64104. No. 2. *Bosugogo* No. 5. A pure line selected in our station, with awnless ears. This variety is rather late in maturing.

64105. No. 3. *Bocurekugo* No. 6. A pure line selected in our station.

64106. No. 4. *Hashiribara*. A fixed hybrid selected in our station. This is our earliest awnless variety.

64107. No. 5. *Wasebara*. A mass variety with awnless ears, which is fragrant when cooked. An early ripening variety.

64108. No. 6. *Sakigake*. A mass variety with red awns and brown hulls.

64109 to 64113. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.

Common wheat.

From Kharkof, Russia. Seeds obtained from the All-Ukrainian Seed-Producing Association, through J. A. Clark, Bureau of Plant Industry. Received June 1, 1925.

Locally developed strains.

64109. *Kooperatorka*. From the Odessa Experiment Station.

64110. N. 351. From the Uchinskaya Experiment Station.

64111. *Semka*.

64109 to 64113—Continued.

64112. The "Our-Concur." From the Ivanovskaia Experiment Station.

64113. N. 491. From the Verchnichskaya Experiment Station.

64114 to 64116.

From Cape Town, Cape Province, Union of South Africa. Seeds presented by Dr. Rudolph Marloth, through H. L. Shantz, Bureau of Plant Industry. Received June 3, 1925. Notes by Doctor Shantz.

64114. *CYANELLA CAPENSIS* L. *Amaryllidaceae*.

No. 495. This plant, known in South Africa as "Raap unitje" or "Raaprol," has lilac flowers with yellow anthers; these flowers appear in summer when the leaves are mostly withered. The corms form an article of food for the natives.

64115. *ERICA NANA* Salisb. *Ericaceae*.

No. 497. A very small shrubby plant, with procumbent stems and relatively large yellowish flowers. This was probably grown by Doctor Marloth in his gardens at Cape Town.

64116. *PSEUDOGALTONIA* PECHUELLI Kuntze. *Liliaceae*.

No. 496. A bulbous plant, native to Great Namaqualand and Hereroland. The flowers are green and white, and under normal conditions the plant flowers in a leafless condition just before the rainy season; under cultivation the leaves often come first, before the flowers. The plant is very poisonous.

64117 to 64122.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received May 19, 1925.

64117 to 64119. *BOEHMERIA* spp. *Urticaceae*.

64117. *BOEHMERIA PLATYPHYLLA* D. Don.

A large shrub or small tree, native to eastern and southern India, which, according to Watt (Dictionary of the Economic Products of India, vol. 1, p. 481) is said to yield good fiber. The reddish brown wood is moderately hard.

64118. *BOEHMERIA BUGULOSA* Wedd.

A small tree with gray-brown branches, which is native in the mountainous districts of northeastern India. The moderately hard durable reddish wood is used in the manufacture of buckets, boxes, etc.

64119. *BOEHMERIA SIDAEPOLIA* Wedd.

A slender shrubby plant, erect or bushy, with oval hairy leaves; it is native to subtropical regions of northeastern India. Several species of this genus are valued in India as fiber-producing plants.

64120. *CROTALARIA TETRAGONA* Roxb. *Fabaceae*.

An erect stiff shrub, often 6 feet in height, which grows wild in the Himalayas of northeastern India, ascending to an altitude of 3,500 feet. The thin silky membranous narrow leaves are

64117 to 64122—Continued.

sometimes a foot long, and the lemon-yellow flowers are produced in lax racemes 6 inches or more in length.

For previous introduction see S. P. I. No. 59321.

64121. *PIERIS OVALIFOLIA* (Wall.) D. Don (*Andromeda ovalifolia* Wall.). Ericaceae.

Although this shrub or small tree may prove of value as a semihardy ornamental because of its racemes of bluish or white flowers, it is used as an insecticide in its native country, India, because of the presence of a poisonous principle in the young leaves and buds. The oblong leathery leaves are 3 to 6 inches long.

For previous introduction see S. P. I. No. 60653.

64122. *THEMEDA GIGANTEA* (Cav.) Hack. Poaceae.

A tall erect stout grass, 8 to 16 feet high, with very narrow leaves 4 to 8 feet long and oblong panicles 1 to 3 feet in length. It is native to eastern Asia and is closely related to the kangaroo grass of Australia, which is considered a valuable fodder.

64123 to 64125. *GOSSYPIUM* spp. Malvaceae.

From Natal, Brazil. Seeds presented by E. C. Green. Received May 19, 1925.

Selections of Brazilian cotton, probably hybrids of *Gossypium peruvianum* and *G. vitifolium*.

64123. *GOSSYPIUM* sp.

A.

64124. *GOSSYPIUM* sp.

B.

64125. *GOSSYPIUM* sp.

C.

64126 to 64152.

From Chihli, China. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received May, 1925. Notes by Mr. Dorsett.

64126 and 64127. *FAGOPYRUM VULGARE* Hill (*F. esculentum* Moench). Polygonaceae. Buckwheat.

64123. No. 2552. Miyunhsien. March 26, 1925.

64127. No. 2567. Kaoliying. March 27, 1925.

64128. *HORDEUM* sp. Poaceae. Barley. No. 2547. Niulan Mountain. March 26, 1925. *Wang ta mai* (king barley).

64129. *HORDEUM* sp. Poaceae. Barley. No. 2561. Kaoliying. March 27, 1925. *Wang ta mai* (king barley).

64130 to 64133. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceae. Adsuki bean.

64130. No. 2545. Niulan Mountain. March 26, 1925. A small black bean.

64126 to 64152—Continued.

64131. No. 2559. Miyunhsien. March 26, 1925. A small gray variety.

64132. No. 2563. Kaoliying. March 27, 1925. A small white bean.

64133. No. 2564. Kaoliying. March 27, 1925. A small red variety.

64134 to 64137. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

64134. No. 2543. Niulan Mountain. March 26, 1925. This is a green variety.

64135. No. 2557. Miyunhsien. March 26, 1925. A green bean.

64136. No. 2565. Kaoliying. March 27, 1925. A hairy variety.

64137. No. 2571. Niulan Mountain. March 31, 1925. These beans are of a dull grayish brown and were separated from the green mung beans sent in under No. 2543 [S. P. I. No. 64134].

64138. *PISUM SATIVUM* L. Fabaceae. Pea. No. 2340. Paotingfu. March 10, 1925. A white field pea.

64139 to 64145. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

64139. No. 2544. Niulan Mountain. March 26, 1925. A black soy bean.

64140. No. 2546. Niulan Mountain. March 26, 1925. A green variety.

64141. No. 2548. Niulan Mountain. March 26, 1925. Yellow soy bean.

64142. No. 2549. Niulan Mountain. March 26, 1925. A small, green soy bean.

64143. No. 2556. Miyunhsien. March 26, 1925. Yellow soy bean.

64144. No. 2560. Miyunhsien. March 26, 1925. Black variety.

64145. No. 2566. Kaoliying. March 27, 1925. Yellow soy bean.

64146 to 64149. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

64146. No. 2542. Niulan Mountain. March 26, 1925. A spring wheat.

64147. No. 2550. Niulan Mountain. March 26, 1925. Winter wheat.

64148. No. 2553. Miyunhsien. March 26, 1925. Winter wheat.

64149. No. 2554. Miyunhsien. March 26, 1925. Spring wheat.

64150. *VICIA FABA* L. Fabaceae. Broad bean.

No. 2558. Miyunhsien. March 26, 1925. *Ts'an tou* (silkworm bean) or English horse bean.

64151. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

No. 2551. Miyunhsien. March 26, 1925. A mottled cowpea.

64152. *ZEA MAYS* L. Poaceae. Corn. No. 2562. Kaoliying. March 27, 1925. Seeds of a white corn.

64153 and 64154.

From Satyagrahashram, Sabarmati, India. Seeds presented by Magaulal K. Gandhi, at the request of Richard B. Gregg, Ahmedabad, Sabarmati. Received June 3, 1925.

64153. *CUCUMIS SATIVUS* L. Cucurbitaceae. Cucumber.

A long bulky cucumber which has flesh and flavor resembling a muskmelon, though not so sweet. (Gandhi.)

64154. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae. Cushaw.

Sugar pumpkin (Indian name "Sakkaekola"). A prolific variety of small pumpkin, round in shape and of a beautiful reddish color, resembling a half-ripe tomato. As the name suggests, the flavor is sweet. It is an earlier bearer than any of the other varieties and is a good keeper if stored in a dry place. (Gandhi.)

64155 and 64156.

From Mexico. Seeds collected by C. R. Orcutt. Received May 21, 1925.

64155. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.

From the market at San Luis Potosi. (Orcutt.)

64156. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

No. 1749. 1924. Alvarez. *Takil*. (Orcutt.)

64157. *GOSSYPIUM* sp. Malvaceae.

Cotton.

From Rabat, Morocco. Seeds presented by Em. Miège, chief, Service de l'Expérimentation Agricole au Maroc, through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received May 29, 1925.

A seedling of the native cotton known as *Sar-sar*; the latter is described under S. P. I. Nos. 64002 and 64003.

64158 and 64159.

From China. Plants collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 20, 1925.

64158. *LIRIOPE GRAMINIFOLIA* (L.) Baker (*L. spicata* Lour.). Liliaceae.

No. 121. Hong Kong Botanic Gardens. March 4, 1925. *Kaai t'sin t'so*. A dark-green variety which is of low habit and spreads rapidly by rhizomes. It is said to produce fruits only very sparingly. Used extensively in the place of grass in situations where the dense shade, shallow rooting of some trees, or other conditions prevent the growth of a satisfactory grass sod. (McClure.)

64159. *OPHIOPOGON* sp. Liliaceae.

A tropical, grasslike plant with small white or bluish flowers; collected in southeastern China.

64160 and 64161. *LOLIUM TEMULENTUM* L. Poaceae. Darnel.

From Ariana, near Tunis, Tunisia, Africa. Seeds presented by the chief of the Botanical Service. Received March 9, 1925. An annual European grass.

64160 and 64161—Continued.

64160. Received as *Lolium canadense*.

64161. Received as *Lolium brevicaulis*.

64162 and 64163. *MUSA PARADISIACA* SAPIENTUM (L.) Kuntze. Musaceae. Banana.

From Santiago de las Vegas, Cuba. Suckers presented by Gonzalo Fortun, director, Estación Experimental Agronomica. Received June 3, 1925.

64162. *Enano*. A dwarf banana which may be different from the Cavendish variety now being grown in Florida.

64163. *Congo*. This is similar to the *Enano* variety, but it appears to be immune to the Panama disease. It bears enormous bunches of fruits which sometimes weigh more than 100 pounds. (Fortun.)

64164 and 64165. *LANDOLPHIA* spp. Apocynaceae.

From Kisantu, Belgian Congo, Africa. Seeds presented by Frère J. Gillet. Received June 5, 1925.

64164. *LANDOLPHIA KLAINTII* Pierre.

A tropical African climbing shrub which is said (Flora of Tropical Africa, vol. 4, sect. 1) to be the principal rubber-producing plant in the Gabon district, French Equatorial Africa. The oblong leathery leaves are glossy green, and the hard globose fruits are 6 to 10 inches in diameter.

For previous introduction see S. P. I. No. 63737.

64165. *LANDOLPHIA OWARIENSIS* Beauv.

This is described (Wildeman and Gentil, *Lianes Caoutchoutifères du Congo*, p. 53) as an enormous tropical creeper, found throughout the Belgian Congo, which attains a length of over 300 feet and a stem diameter of about 15 inches. The wedge-shaped elliptic leaves are 2 to 4 inches long. While the rubber-producing latex obtained from this species is often of good quality, frequently individual specimens yield latex which is practically useless.

For previous introduction see S. P. I. No. 58517.

64166 to 64183.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received June 3, 1925.

64166. *ABROMA AUGUSTA* L. f. Sterculiaceae.

A large spreading shrub, native to tropical Asia, with heart-shaped soft-hairy leaves and dingy-purple flowers. In India a fiber is extracted from the twigs which is valued for its beauty, softness, and durability.

64167. *ACER OSMASTONI* Gamble. Aceraceae. Maple.

A large Himalayan maple, described (Kew, *Bulletin of Miscellaneous Information*, 1908, p. 446) as a tree up to 100 feet tall, growing wild in Sikkim, India, at an altitude of about 7,000 feet. The leaves, 1 to 3 lobed, are papery and about 5 inches long.

For previous introduction see S. P. I. No. 61742.

64166 to 64183—Continued.

64168. *ARAUJIA MEGAPOTAMICA* Don. Asclepiadaceae.

A shrubby evergreen climbing plant, with opposite leaves and whitish or rose bell-shaped flowers. It is native to Brazil and can be grown under glass or in the open in summer.

64169. *ARCTOTIS STOCHADIFOLIA* Bergius. Asteraceae.

A bushy composite from the Cape of Good Hope, which according to Harvey and Sonder (*Flora Capensis*, vol. 3, p. 454) has long hairy branches with whitish hairy leaves and large showy orange-colored flower heads.

64170. *ARGYROLOBIMUM LINNAEANUM* Walp. Fabaceae.

A perennial caespitose half-woody leguminous plant, usually 4 to 8 inches high, with trifoliolate leaves and terminal yellow flowers. It is native to the Mediterranean regions.

64171 to 64173. *CITRUS MEDICA* L. Rutaceae. Citron.

64171. Received as *Citrus lumia*, which is now referred to as *C. medica*.

64172. *Lumus Valentina*.

64173. Var. *Perettone*.

64174. *CROTALARIA TETRAGONA* Roxb. Fabaceae.

An erect stiff shrub, often 6 feet in height, which grows wild in the Himalayas of northeastern India, ascending to an altitude of 3,500 feet. The thin silky membranous narrow leaves are sometimes a foot long, and the lemon-yellow flowers are produced in lax racemes 6 inches or more in length.

For previous introduction see S. P. I. No. 59321.

64175. *ECCREMOCARPUS SCABER* Ruiz and Pav. Bignoniaceae.

A Chilean relative of the Trumpet creeper, which is a shrubby vine with crimson and yellow flowers. It has bipinnate leaves and becomes 10 feet or more in length.

64176. *EUCALYPTUS ALGERIENSIS* Trabut. Myrtaceae.

A hybrid between *Eucalyptus rostrata* and *E. rudis* which has become naturalized in North Africa and now covers considerable areas of the hills around Algeria. It differs from *E. rudis* by its smooth trunk and its small flowers with the hemispherical operculum not beaked, and from *E. rostrata* by its buds, which are white like those of *E. rudis*. *Eucalyptus rudis* flowers in the spring, while *E. rostrata* flowers in July and August. (Note by David Fairchild under S. P. I. No. 62666.)

64177. *MEIBOMIA GYROIDES* (DC.) Kuntze (*Desmodium gyroides* DC.). Fabaceae.

A shrubby leguminous plant, 8 to 10 feet high, from the warmer parts of the central and eastern Himalayas. It has hairy leaves and terminal clusters of red flowers.

For previous introduction see S. P. I. No. 61613.

64166 to 64183—Continued.

64178. *MEIBOMIA PULCHELLA* (L.) Kuntze (*Desmodium pulchellum* Benth.). Fabaceae.

An erect hairy shrub with trifoliolate leaves and spikelike clusters of red flowers. It is native to southeastern Asia and is introduced chiefly for testing as a forage plant.

64179. *NEPTUNIA OLERACEA* Lour. Mimosaceae.

According to Ridley (*Flora of the Malay Peninsula*, vol. 1, p. 653), this floating leguminous plant, with white fleshy stems, is used as a potherb. The bipinnate leaves are 3 inches long, and the flower heads are yellow.

64180. *ONCOCALAMUS* sp. Phoenicaceae. Palm.

The members of this tropical African genus are climbing palms with long stems and pinnate leaves.

64181. *PANCRATIUM COLLINUM* Coss. and Dur. Amaryllidaceae.

A bulbous plant from Algeria, described by Baker (*Handbook of Amaryllidaceae*, p. 118) as having five or six linear leaves about 2 feet long and greenish white fragrant flowers in 5 to 10 flowered umbels.

64182. *VERNONIA VOLKAMERIAEFOLIA* DC. Asteraceae.

A small stout tree with large leaves, about a foot in length, and very numerous whitish flower heads in terminal panicles. The tree is native in the mountainous districts of northeastern India.

64183. *ZANTHOXYLUM ALATUM* PLANTSPINUM (Sieb. and Zucc.) Rehd. and Wils. Rutaceae.

According to the *Revue Horticole* (vol. 85, p. 17), this Japanese shrub is 7 to 13 feet high, much branched at the base, sometimes with a short trunk. The dark-brown spreading branches, drooping a little at the tips, bear stout straight spines in pairs and evergreen pinnate leaves, dark green above and paler beneath. The small red fleshy fruits are persistent and emit a very agreeable aromatic odor when bruised. The shrub should be more extensively planted as an ornamental; in addition it makes a very formidable hedge. Propagation is by seeds or cuttings.

64184 to 64195.

From northern Africa. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 4, 1925. Notes by Doctor Fairchild.

64184. *ANCHUSA UNDULATA* L. Boraginaceae.

April 27, 1925. Var. *lamprocarpa*. Seeds of what appears to be one of R. Maire's new subspecies which is native to Morocco. As I saw it on the sand land, about 14 miles north of Kenitra, Morocco, it appeared to be a very attractive flowering perennial which should be introduced into our gardens and improved through selection. The dark-purple flowers contrast strikingly with the red-purple of the stiff inflorescence, which has a great deal of style to it.

64184 to 64195—Continued.

64185. *CAPSIUM ANNUM L.* Solanaceae.
Red pepper.

Sidi Bel Abbes, Algeria. March 12, 1925. Seeds purchased in the market. I have not seen this particular variety of the sweet red pepper of Spain since I was in Murcia, Spain, 25 years ago. The Spanish grind it up into a very fine powder and flavor their soups and other dishes. It is one of the finest flavored varieties and is not the least bit sharp; a large spoonful of the ground fruit can be put into a plate of soup or stewed with chicken. I believe it is also used fresh in the making of what we in America call "pimento."

64186. *CERINTE GYMNDRA* Gasp. Boraginaceae.

April 27, 1925. There are several species of *Cerinte* scattered along the coast of northern Africa which differ in the size and color of the flowers and in the tint of black-purple which characterizes their large floral bracts. If used in a border properly it might be a most effective plant, furnishing a dark-purple background for all sorts of other flowering plants. These seeds were gathered in the valley back of the old town of Ouezzan, Morocco, which is about 30 miles from the Rif frontier.

64187. *DIPCADM SEROTINUM* Medic. Liliaceae.

Forest of Mamora, near Rabat, Morocco. April 23, 1925. Seeds of a bulbous plant growing about a foot high and producing a slender spike of salmon-colored flowers which are shaped like those of a hyacinth. It forms patches in the deep sandy soil of the forest of Mamora.

64188. *ECBALLIUM ELATERIUM* (L.) A. Rich. Cucurbitaceae.

From a roadside near Sidi Bel Abbes, Algeria. March 24, 1925.

Seeds of the "squirting cucumber," a perennial trailing vine, native to the Mediterranean countries. It is cultivated as an annual in gardens of the Temperate Zone and is a curiosity because of its peculiar habit of violently ejecting its seeds and juice. A drug, *elaterium*, is obtained from the juice. In flower and foliage characters the plant closely resembles the cucumber, and the fruit is like a small greenish elliptical gourd covered with soft greenish prickles.

64189. *HELIANTHEMUM AEGYPTIACUM* Mill. Cistaceae.

Forest of Boulhout, near Rabat, Morocco. April 23, 1925. The superb yellow color of this small species attracted my attention at once, and although the flowers last only a short time, they have so delicate a charm about them that I could not resist sending in seeds in order that an attempt should be made to naturalize the species in the oak forests and on the sandy soils of southern California. This variety appears to be common in Algeria and Tunisia, as well as here in Morocco.

64190. *IRIS ALATA* Poir. Iridaceae.

Seeds of a low-growing species which grows wild in the wet gumbo soils about 66 miles north of Kenitra, Morocco. It is a purple-flowered species, and R. Maire

64184 to 64195—Continued.

tells me it is well worth growing in our borders for its large flowers, which in Algiers appear during October and November. It produces numerous tubers on its roots.

64191. *LEUCOCYJUM AUTUMNALE* L. Amaryllidaceae.

April 17, 1925. Seeds collected in the forest of Mamora, about 9 miles from Rabat, Morocco.

An autumn-blooming bulbous plant, sometimes called the "autumn snowflake." The threadlike leaves usually appear after the flowers; these are white, tinged with red, and are borne on a slender scape 3 to 9 inches long. Native to the Mediterranean countries and best suited for growing in sandy soil in the southern half of the United States.

64192. *MYOPORUM* sp. Myoporaceae.

May 3, 1925. Seeds presented by the Jardin d'Essais, Rabat, Morocco, where there are many hundreds of yards of hedges of this variety. It was introduced into Morocco and has now become the principal hedge plant and windbreak of the whole coast. It is one of the best plants I have ever seen for hedges down near the sea, but not right on the very edge of the surf. It stands clipping admirably well and is an evergreen of a pleasing dark-green color. It grows with the greatest ease from cuttings, makes a very dense windbreak, and will stand several degrees of frost without injury. It is reported that grasshoppers do not care for this species.

64193. *ORNITHOGALUM UNIFOLIUM* (L.) Ker. Liliaceae.

Bulbs from the forest of Mamora, near Rabat, Morocco. April 21, 1925.

A Portuguese relative of the star of Bethlehem which is described (Curtis's Botanical Magazine, pl. 935) as a little bulbous plant a foot or less high, with but one leaf, which is narrow, concave, and terminated by a long recurved point. The three to five white flowers are borne on a scape shorter than the leaf.

64194. *RHUS PENTAPHYLLA* (Jacq.) Desf. Anacardiaceae.

Boulhout, Morocco. April 22, 1925. Seeds of a beautiful shrub at present covered with berries which are just beginning to ripen. The fruits become intense red later in the season, and the bark is a source of tannin.

64195. *TRADESCANTIA* sp. Commelinaceae.

The spiderworts are perennial herbs, all native to North America and cultivated in the greenhouse or out of doors, according to their hardiness, for the sake of their bright flowers, which are blue, red, or white, and attractive foliage. Cuttings of a North African species.

64196 to 64198.

From Avondale, Auckland, New Zealand. Seeds presented by H. R. Wright. Received June 5, 1925.

64196. *MERTYA SINCLAIRII* (Hook. f.) Seem. Araliaceae.

A small, very attractive New Zealand tree, described by Laing and Blackwell (Plants of New Zealand, p. 312) as about 20 feet high, with shining-green

64196 to 64198—Continued.

leaves 9 to 20 inches long, and erect panicles of greenish yellow flowers. It probably is adapted for growing only in Florida and California.

64197. *PHORMIUM TENAX* Forst. Liliaceae. New Zealand flax.

Var. *atropurpureum*. A horticultural variety with reddish purple foliage. The plant has rigid sword-shaped leaves 6 feet or more in length and a flower stalk sometimes 15 feet high, which bears numerous dull-red flowers. Adapted for growing outdoors in Florida and California and as a tub plant farther north.

64198. *VITEX LUCENS* Kirk. Verbenaceae. Puriri.

A handsome New Zealand evergreen tree, described by Laing and Blackwell (Plants of New Zealand, p. 350) as being about 60 feet in height, with bright glossy green leaves composed of three to five leaflets. The pink or red two-lipped flowers, produced more or less continuously throughout the year, are in axillary clusters. The wood is very strong and durable and is not injured by dampness. The roots do not penetrate deeply into the ground, so the tree is easily blown over by heavy winds. The tree will probably not endure much frost.

64199 to 64205. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

From Potchefstroom, Transvaal, Union of South Africa. Seeds presented by Jacq. P. F. Sellschop, School of Agriculture. Received June 11, 1925.

Locally grown strains.

64199. *Bird Proof*.

64200. *Brown Sudan Durra*.

64201. *Ordinary Red*.

64202. *Short Red*.

64203. *White Coligny*.

64204. *White Sudan Durra*.

64205. *Yanzu*.

64206. *CARICA PAPAYA* L. Papayaceae. Papaya.

From Santiago de las Vegas, Cuba. Seeds presented by Gonzalo M. Fortun, director, Estación Experimental Agronomica. Received June 10, 1925.

Mamey. This is a fine papaya of medium size, with red flesh of fine flavor. (Fortun.)

64207 to 64209. *COIX LACRYMA-JOBI* MAYEN (Rom.) Stapf. Poaceae.

Adlay.

From Lamao, Bataan, Philippine Islands. Seeds presented by S. Youngberg, acting Director, Bureau of Agriculture, Manila. Received June 23, 1925.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

64207 to 64209—Continued.

64207. *Batangas*.

64208. *Bukidnon*.

64209. *Lamao White*.

64210. *POA FLABELLATA* (Lam.) Hook. f. Poaceae. Tussock grass.

From Stanley, Falkland Islands. Seeds presented by James Reid, forest officer. Received June 12, 1925.

For previous introduction and description see S. P. I. No. 63972.

64211 to 64214. *RUBUS* spp. Rosaceae.

From the Philippine Islands. Seeds presented by P. J. Wester. Received June 12, 1925. Notes by Mr. Wester unless otherwise stated.

Collected February 24 to 27, 1925, in the vicinity of Mount Pulog, Benguet Province, Luzon.

64211. *RUBUS ELLIPTICUS* J. E. Smith. Raspberry.

Adouay. February 27. A very stout shrub which, especially when young, is densely covered with long red hairlike spines. The flowers are white, and the deep-yellow, almost orange, very juicy, acid fruits, which ripen earlier on the mountains than in the valley, are collected by the hill tribes and brought to the markets. (J. F. Rock.)

64212. *RUBUS FRAXINIFOLIUS* Poir. Raspberry.

Palanau. A tropical raspberry, described (Brown, Wild Food Plants of the Philippines, p. 63) as a scrambling shrub, with branches 2 to 4 meters long, which is very common in the mountains from Luzon to Mindanao, Philippine Islands. The stems and leaves are armed with sharp spines, and the white flowers are about 2 centimeters across. The bright red berries, 10 to 15 millimeters in diameter, borne in clusters, are fairly juicy and edible, but rather tasteless.

64213. *RUBUS PECTINELLUS* Maxim.

Atibu. A trailing plant with small heart-shaped hairy leaves and weak spines on all parts of the plant. It grows at an altitude of 5,000 feet or more, from northern Luzon to Mindanao. The berries, three-fifths of an inch in diameter, are bright red, juicy, subacid, and of excellent flavor and quality. This is the choicest species of *Rubus* in the Philippines, but it is not in cultivation.

64214. *RUBUS NIVEUS* Thunb. Raspberry.

Below Camp 42, trail to Adouay. *Pilay*. A bramble found in northern Luzon at altitudes ranging from 4,000 to 7,000 feet, with spiny canes up to 7 feet in length. The five to nine foliolate leaves are white beneath. The hemispherical berries are bluish, subacid, and of good flavor. This plant is not cultivated, but is well worthy of domestication.

64215. *ACACIA GIRAFFAE* Willd. Mimosaceae.

From Kirstenbosch, Cape Province, Union of South Africa. Seeds presented by Prof. R. H. Compton, director, National Botanic Gardens. Received June 12, 1925.

The *kameel doorn* of the Transvaal is a valuable timber tree for arid regions in the warm Temperate Zone, according to J. Burt Davy, formerly director of the Burt-Davy seed farms at Burttholm, Vereeniging, Transvaal. The ripe pods are greedily eaten by stock. The tree thrives in sandy soil, attains a large size, and the dark reddish brown wood is used by the natives in making spoons, knife handles, etc.

64216. CARICA PAPAYA L. Papayaceae.
Papaya.

From Santiago de las Vegas, Cuba. Seeds presented by Gonzalo M. Fortun, director, Estacion Experimental Agronomica. Received June 13, 1925.

One of the larger papaya types, sent to me by Mario Escobar y Ferrer, of Colonia "Bellamar" Jagueyal. (*Fortun.*)

64217. MEIBOMIA LEOCARPA (Spreng.) Kuntze (Desmodium leiocarpum Don.). Fabaceae.

From Buenos Aires, Argentina. Seeds presented by Carlos D. Girola, Museo Agrícola de la Sociedad Rural Argentina. Received June 12, 1925.

In northern Argentina and southern Brazil this native leguminous plant is eaten readily by stock, according to Señor Girola (*Boletín del Ministerio de Agricultura, Buenos Aires, vol. 25, p. 375*). The plant becomes 6 feet or more in height, more or less branched, with trifoliate leaves 2 inches or more long. For use as forage the plants are cut at the level of the ground, just before flowering; this practice causes the plants to renew their growth most rapidly.

64218. PANICUM LAEVIFOLIUM Hack. Poaceae. Grass.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by H. A. Mélé, Department of Agriculture, through C. V. Piper, Bureau of Plant Industry. Received June 17, 1925.

Sweet grass is an annual, widely distributed over the Transvaal and the Orange Free State. Owing to its rapid growth in cultivated lands, it is regarded as a troublesome weed. It is a very rapid grower, heading within six weeks after the seed has germinated, and has a remarkably heavy yield. The mown grass, if properly cured, makes excellent hay of the best palatability, which during the winter months is eaten greedily by stock. (*Mélé.*)

64219 and 64220. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Fortuna, Porto Rico. Cuttings presented by J. Matz, through E. W. Brandes, Bureau of Plant Industry. Received June 24, 1925.

64219. B. 6032.

64220. B. 6308.

64221 and 64222.

From Chingkansan, Hupeh, China. Seeds presented by Rev. A. S. Cooper. Received June 15, 1925.

64221. PYRACANTHA sp. Malaceae.

Firethorn.

The firethorns are ornamental shrubs grown chiefly for their bright-red fruits. This Chinese species is as yet unidentified.

64221 and 64222—Continued.

64222. LILIUM LEUCANTHUM CHLORASTER (Baker) Wilson. Liliaceae. Lily.

An unidentified Chinese lily. To be grown to ascertain its horticultural value.

64223 to 64230. PYRUS spp. Malaceae. Pear.

The following seedlings, grown at the Plant Introduction Garden, Chico, Calif., are from hybrids between one of the *Pyrus communis* types and a Chinese pear, raised by the late Walter Van Fleet in 1907 and hitherto carried collectively at the Chico garden under the S. P. I. No. 28497. Numbered in April, 1925, for convenience in distribution.

64223. PYRUS sp.

A medium-sized pear, 3½ inches long and 2¾ inches wide, which is obovate-acute-pyriform, some specimens tending to oblong-pyriform. The thick, tough skin is light yellow overlain with bronze or light pink on the exposed surface and is slightly roughened by numerous large conspicuous russet dots. The flesh is white, fairly juicy and firm, sweet but insipid. The tree is very prolific and ripens its fruits at Chico from the middle of August to the middle of September. (Row 42, tree 3, and row 44, tree 3.)

64224. PYRUS sp.

Fruits medium to large, averaging 3 inches long and 2¾ inches wide; acute-obovate-pyriform in shape with unequal sides. When ripe the skin is lemon yellow with a smooth waxy surface and numerous russet dots. The flesh is quite firm and juicy, slightly sweet, but lacking in flavor. Possibly of use for canning purposes. The fruits ripen at Chico from late in September to late in October. Row 26, tree 4, old test orchard.)

64225. PYRUS sp.

A medium-sized pear, yellowish green and rather rough. The flesh is light colored, rather coarse in texture, but juicy, sweet, and of fair quality. The tree is small and rather slow growing, bearing an average crop and showing no evidence of disease. Evidently a fair winter pear. The fruits ripen at Chico about the middle of August. (Row 26, tree 8, old test orchard.)

64226. PYRUS sp.

A medium-sized drooping vigorous tree, bearing an average crop of medium-sized pears. The fruits are greenish yellow and smooth. The flesh is juicy and slightly acid with a trace of astringency. This has a possible value as a late winter pear. (Row 26, tree 11, old test orchard.)

64227. PYRUS sp.

Fruits large and coarse, averaging 12 to 16 ounces in weight, with greenish yellow skin, slightly colored where exposed to the sun. The flesh is juicy and fairly sweet, but lacking in flavor. The tree is vigorous, free from blight, and bears a heavy crop of fruit which ripens late in September or early in October at Chico, Calif. (Row 28, tree 8, old test orchard.)

64228. PYRUS sp.

A very vigorous tree showing as yet no evidence of blight and bearing a heavy

64223 to 64230—Continued.

crop of large obovate pears averaging 8 to 10 ounces in weight. The flesh is coarse, granular, juicy, and lacking in flavor. (Row 28, tree 10, old test orchard.)

64229. *PYRUS* sp.

Fruits medium sized, turbinate, averaging $2\frac{1}{2}$ inches long and $2\frac{1}{4}$ inches wide, with a fairly smooth surface, slightly roughened in spots by russet patches. The flesh is white, fairly juicy and firm, sweet, with a pleasant flavor. A satisfactory dessert pear which ripens early in September. (Row 34, tree 4, old test orchard.)

64230. *PYRUS* sp.

A pear averaging 7 or 8 ounces in weight, obovate in form, greenish yellow, and heavily dotted. The flesh is very coarse and gritty and would probably be of value only for cooking purposes. The tree is spreading, open, and vigorous and as yet shows no evidence of disease. Fruits ripen in October at Chico, Calif. (Row 27, tree 9, old test orchard.)

64231 to 64243.

From Leningrad, Russia. Seeds presented by A. Kol, chief of information and introduction, Institute of Applied Botany. Received June 12, 1925.

64231. *ABIES SIBIRICA NEPHROLEPIS* Trautv. Pinaceae.

A tall Siberian fir with a trunk 2 to 4 feet in diameter, dark yellow-green crowded leaves, and slender brownish yellow cones. This is said to be a very hardy fir, although the young growth is often injured by late frosts.

64232. *ACANTHOPANAX SENTICOSUM* (Rupr.) Harms. Araliaceae.

A very spiny shrub bearing palmate-divided leaves and having at the end of its long shoots small umbels of black berries. Grows generally in dense shade, and may prove useful as a park or garden shrub or as an undergrowth beneath tall trees. (Frank N. Meyer, note under S. P. I. No. 20309.)

64233. *ACER TEGMENTOSUM* Maxim. Aceraceae. Maple.

A small hardy Manchurian maple, very similar to *Acer rufinerve*. The bright-green three-lobed leaves are about 3 inches long and slightly less in width.

64234. *BETULA SCHMIDTII* Regel. Betulaceae. Birch.

A Japanese birch, described by C. S. Sargent (Plantae Wilsonianae, vol. 2, pt. 3, pp. 475 and 476) as a large tree with thick branches, found only in the Province of Shimotsuke, Hondo, Japan. It grows to be 65 feet tall, with a trunk $3\frac{1}{2}$ to $7\frac{1}{2}$ feet thick, and black bark which falls off in thick, rather small plates. The finely serrate leaves are short stemmed, and the catkins are narrow, stiff, and erect.

64235. *FRAXINUS MANDSHURICA* Rupr. Oleaceae. Ash.

An Asiatic ash, described by Bean (Trees and Shrubs Hardy in the British Isles, vol. 1, p. 569) as a handsome tree

64231 to 64243—Continued.

often 100 feet in height, native to Japan and the adjacent parts of the Asiatic mainland. The leaves are up to 15 inches in length, with dull-green bristly leaflets. The tree is said to be susceptible to late spring frosts.

64236. *LARIX DAHURICA* Turcz. Pinaceae. Larch.

A larch from Manchuria and south-eastern Siberia, sometimes as much as 70 feet in height. In many sections it is superior to the common European larch as a park tree. In the spring the young cones are very attractive because of their bright pink color.

64237. *MAACKIA AMURENSIS* Rupr. Fabaceae.

A small tree, native to eastern Asia, with orange-brown bark, dull-green compound leaves, and short erect clusters of small yellowish white flowers.

64238. *PICEA JEZOENSIS* (Sieb. and Zucc.) Carr. Pinaceae.

A handsome hardy spruce, native to eastern Asia, which becomes about 70 feet high, with low-spreading branches and a dense pyramidal habit. The leaves are silvery above and rich green beneath, and the staminate flowers are orange-crimson.

64239. *PRUNUS MAACKII* Rupr. Amygdalaceae. Cherry.

A Manchurian bird cherry, 40 feet or more in height, with very smooth brownish yellow bark which peels off like that of a birch. The leaves are pointed and very finely toothed, and the white flowers are in short racemes borne on the previous season's wood.

64240. *PRUNUS SALICINA* Lindl. Amygdalaceae. Plum.

Var. *koreana*. A horticultural form of the Japanese plum which will be grown to ascertain its horticultural value.

64241. *PYRUS USSURIENSIS* Maxim. Malaceae. Pear.

A hardy Chinese pear, some strains of which have shown unusual resistance to the pear blight. Introduced for horticulturists engaged in pear-breeding experiments.

64242. *SCHIZANDRA CHINENSIS* (Turcz.) Baill. Magnoliaceae.

A trailing vine of small growth, found among boulders and rocks. The leaves are not unlike those of *Actinidia kolomikta*, and the sour red berries are in small clusters. Might be of use as a small porch and trellis vine for the colder sections of the United States. (Frank N. Meyer, note under S. P. I. No. 36755.)

64243. *TILIA AMURENSIS* Rupr. Tiliaceae.

A Manchurian linden which according to Schneider (Illustriertes Handbuch der Laubholzkunde, vol. 2, p. 374) has a habit similar to that of the small-leaved linden (*Tilia cordata* Mill.), with ovate papery long-pointed leaves which are dark green above and blue-green below. It is distinguished from the small-leaved linden by its coarser dentations.

64244. LEUCOJUM AUTUMNALE L. Amar-
yllidaceae.

From Morocco. Bulbs collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 4, 1925.

April 17, 1925. Collected in the forest of Mamora, about 9 miles from Rabat. (*Fairchild*.)

For introduction of seeds and description, see S. P. I. No. 64191.

64245 to 64272.

From Tibet, China. Seeds collected by F. Kingdon Ward and presented by Maj. Lionel de Rothschild, London, England. Received May 22, 1923. Notes by Captain Ward.

Collected in the Tsangpo Valley during the spring of 1924.

64245. ACER sp. Aceraceae. Maple.

No. 5832. A tree 20 to 30 feet high, growing in a mixed forest.

64246 to 64249. BERBERIS spp. Berberid-
aceae. Barberry.**64246. BERBERIS sp.**

No. 5773. A bush, 6 feet in height, with glaucous foliage which turns purple in the autumn. The flowers are yellow and the berries coral red.

64247. BERBERIS sp.

No. 5936. This bush, 6 feet in height, has scarlet foliage during the autumn. The bright-yellow flowers are very numerous, and the berries are scarlet.

64248. BERBERIS sp.

No. 5962.

64249. BERBERIS sp.

No. 6233. A small shrub, 1 to 1½ feet in height, growing on sunny grassy slopes in peaty soil among dwarf rhododendrons. The pendent berries are coral red.

64250. CARAGANA sp. Fabaceae.

No. 6267. A bush, 2 to 3 feet high, growing in alpine regions on open slopes facing the south. The flowers are pink (?).

64251. CASSIOPE sp. Ericaceae.

Nos. 5663 and 5770. Grows in peaty soil on alpine meadows.

64252. CLEMATIS sp. Ranunculaceae.

No. 6290.

64253. COTONEASTER sp. Malaceae.

No. 6400.

64254. ENKIANTHUS sp. Ericaceae.

No. 6254. A shrub, 6 to 10 feet high, found in thickets and on the margins of forests. The leaves are scarlet and orange in the autumn; the flowers were not seen.

64255. ILEX sp. Aquifoliaceae. Holly.

No. 6249. An evergreen undershrub about 1 foot high, with scarlet berries resembling those of the holly. Grows among dense shrub growth and boulders in peaty soil.

64245 to 64272—Continued.**64256. IRIS sp.** Iridaceae.

No. 5783.

64257. IRIS sp. Iridaceae.**64258 to 64260. LILIUM spp.** Liliaceae. Lily.**64258. LILIUM sp.**

No. 5809. A lily, with maroon flowers, which grows 3 to 6 inches high, in peaty meadows, among dwarf rhododendrons.

64259. LILIUM sp.

No. 5893. Plant 3 feet high, found on sheltered banks among shrubs on granite rock and in loamy soil, at an altitude of 13,000 feet.

64260. LILIUM sp.

No. 6272.

64261 to 64263. LONICERA spp. Capri-
foliaceae. Honeysuckle.**64261. LONICERA sp.**

No. 5775. A bush 6 to 8 feet high found in forests. It bears white or pale-cream pendent flowers and handsome cherry-red translucent berries which are good to eat.

64262. LONICERA sp.

No. 5822. A shrub or small tree up to 20 feet high, found in heavily shaded forests. The leaves are glossy and the flowers maroon colored. The pendent fruits, scarlet and the size of small cherries, are produced on pedicels which are 2 inches in length.

64263. LONICERA sp.

No. 5918. A dwarf shrub, 1 foot high, with yellow flowers and blue-black stems and berries. It grows in peaty soil among dwarf rhododendrons on alpine meadows.

64264. NOMOCHARIS sp. Liliaceae.

No. 6232. A plant 8 to 12 inches high, found on alpine meadows in loam and sand. The flowers were not seen.

64265. ONOSMA sp. Boraginaceae.

No. 5965. A plant having decumbent stems and bright-blue flowers which appear from July to September. It grows in pure sand, gravel, or grit in open, dry, sunny situations and should make a good rock plant.

64266. POPULUS sp. Salicaceae. Poplar.

No. 5675. A golden poplar tree 100 feet high, found in villages by the river.

64267. RHEUM sp. Polygonaceae.

No. 5805. Plant 6 feet high growing among alpine granite boulders at an altitude of 15,000 feet.

64268. ROSA sp. Rosaceae. Rose.

No. 5834. A bush, 6 to 12 feet high, or scrambling from 15 to 20 feet, found in thickets, forests, hedges, etc. The flowers are rose, hips scarlet and flask-shaped.

64269 to 64271. SALIX spp. Salicaceae. Willow.**64269. SALIX sp.**

No. 5753. A shrub 10 to 15 feet high, with large bright-colored staminate and pistillate catkins. Grows in open situations.

64245 to 64272—Continued.

64270. *SALIX* sp.

No. 5870. This dwarf willow, bearing large leaves and erect spikes 3 inches in length, is creeping in habit.

64271. *SALIX* sp.

No. 6239. A shrub a foot or 2 high, with erect spikes about 3 inches long. Grows on sheltered gravelly slopes and in marshy places.

64272. *THALICTRUM* sp. Ranunculaceae.

No. 5899. A plant 6 to 10 feet high, with small leaves and large mauve flowers. Resembles *Thalictrum dipterocarpum*, but probably the leaves are smaller and the flowers larger. Grows in loamy soil, in shady places.

64273 to 64285.

From Chihli Province, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received May 27, 1925. Notes by Mr. Dorsett.

The following seeds were collected at the Botanical Garden, Peking, April 10, 1925.

64273. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Poaceae.

Six-rowed barley.

No. 2658. *Feng Tien hei ta mai* (black barley of Mukden). This variety is said to have originally come from Mukden, Manchuria.

64274 to 64276. *HORDEUM VULGARE PALIDUM* Seringe. Poaceae.

Six-rowed barley.

64274. No. 2649. *Wang ta mai* (king barley). This variety appears to be the most commonly grown barley.

64275. No. 2650. *Honan wang ta mai* (king barley of Honan), said to have originally come from Honan Province.

64276. No. 2659. *Eo Kuo ta mai* (Russian barley), originally from Russia.

64277 and 64278. *PHASEOLUS CALCARATUS* Roxb. Fabaceae. Rice bean.

64277. No. 2652. *Pai ch'ang hsiao tou* (white long small bean). This variety is said to be a product of Chihli Province.

64278. No. 2660. *Tsung so ch'ang hsiao tou* (long brown small bean). These were selected from the small white bean, No. 2652 [S. P. I. No. 64277], and may prove to be a different strain.

64279 to 64283. *PISUM SATIVUM* L. Fabaceae. Pea.

64279. No. 2653. *Eo Kuo pai wan tou* (white field pea of Russia), said to have come originally from Russia.

64280. No. 2654. *Szechwan pai wan tou* (white field pea of Szechwan). A product of Szechwan.

64281. No. 2655. *Feng Tien pai wan tou* (white field pea of Mukden), said to have come originally from Mukden, Manchuria.

64282. No. 2656. *Te Kuo lu wan tou* (green field pea of Germany). Originally from Germany.

64273 to 64285—Continued.

64283. No. 2657. *Szechwan lu wan tou* (green field pea of Szechwan), originally from Szechwan Province.

64284. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

No. 2651. *Tsung se tou* (brown soy bean) said to be a product of Chihli Province.

64285. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 2648. *Pai mai tze* (white winter wheat). Originally from Chinghsien.

64286. *DAHLIA VARIABILIS* (Willd.) Desf. Asteraceae.

From Lima, Peru. Tuber collected by Wilson Popenoe, agricultural explorer, Bureau of Plant Industry. Received February 28, 1925. Numbered April, 1925.

This is considered to be the parent of the great majority of cultivated dahlia varieties, and is, as the name indicates, very variable in both vegetative and floral characters.

64287 and 64288.

From Rio de Janeiro, Brazil. Seeds presented by Dr. Pacheco Leão, director, Botanic Garden. Received June 29, 1925.

64287. *HOLCUS SORGHUM VERTICILLIFLORUS* (Steud.) Hitchc. Poaceae. Tabucki grass.

Locally grown seeds.

For previous introduction see S. P. I. No. 61674.

64288. *MEIBOMIA DISCOLOR* (Vogel) Kuntze (*Desmodium discolor* Vogel). Fabaceae.

A shrubby erect hairy plant from southern Brazil, with oval membranous leaflets and large panicles of light-blue flowers.

64289 to 64309.

From Tiflis, Georgia, Caucasus. Seeds presented by the director of the Botanic Garden. Received June 30, 1925.

64289. *ABIES SPECTABILIS* Lambert (*A. webbiana* Lindl.). Pinaceae. Fir.

An Asiatic fir, which, in its native home in the Himalayas, becomes at times 150 feet in height, according to Bean (Trees and Shrubs Hardy in the British Isles, vol. 1, p. 128). The dark-green leaves are arranged in two opposite series so as to leave a V-shaped opening along the top; the individual leaves are 1 to 2 inches long. The cones, about 5 inches long, are violet-purple at first, becoming brown. It is probable that this fir will prove hardy only in the southern United States.

64290. *ACER DIVERGENS* Koch and Pax. Aceraceae. Maple.

According to Koch (Engler's Botanische Jahrbücher, vol. 7, p. 234), this maple, native to the Caucasus, is probably a tree; the bark is ash brown. The leathery dark-green leaves are pale beneath and five lobed.

64289 to 64309—Continued.

64291. *ACER HYRCANUM* Fisch. and Mey.
Aceraceae. Maple.

A southern European maple of compact habit, about 25 feet high, with bright-green 5-lobed leaves, greenish yellow flowers, and samaras about an inch long.

64292 to 64294. *CORNUS* spp. Cornaceae.
Dogwood.

64292. *CORNUS AUSTRALIS* Meyer.

A close relative of the common European dogwood (*Cornus sanguinea*). It differs in minor characters only, and is native to Asia Minor and the Caucasus. The European dogwood is a shrub 12 feet high, with dark-red branches, pale-green leaves, dense cymes of greenish white flowers, and black fruits.

64293. *CORNUS IBERICA* Hort.

A horticultural variety.

64294. *CORNUS KOENIGI* C. Schneid.

A dogwood native to Transcaucasia, described by Schneider (Illustriertes Handbuch der Laubholzkunde, vol. 2) as a shrub 10 feet or more in height, upright in habit and closely related to the common European dogwood (*Cornus sanguinea*). The branches are purple-brown, the leaves shining green, and the fruits are black.

64295. *CUPRESSUS TORULOSA* Don. Pinaceae.

Var. *corneyana*. A tall pyramidal cypress, 150 feet or less high, with pendulous branches and deep-green leaves arranged irregularly. It is indigenous to the Himalayas, and will probably be hardy only in the southern United States.

64296. *FAGUS ORIENTALIS* Lipsky. Fagaceae. Beech.

A tall handsome beech with a pyramidal habit, which is distributed throughout the Caucasus. The leaves are oblong to elliptic, with entire margins. The wood is considered excellent for making furniture, tools, barrels, etc. This beech should be tried in the Southwest as a timber and shade tree.

64297 to 64301. *IRIS* spp. Iridaceae.

64297. *IRIS CARTHALINIAE* Fomin.

A Caucasian iris, described (Moniteur du Jardin Botanique de Tiflis, 1909) as having a thick rhizome and four or five flowered stems nearly 3 feet high. The sword-shaped leaves are about two-thirds of an inch wide, and the flowers are light blue. In its native country the plant grows in damp places.

64298. *IRIS CAUCASICA* Hoffm.

A rather dwarf iris described by Baker (Irideae, p. 45) as having about six bright-green very narrow leaves 3 to 6 inches long, a short stem, and pale or bright-yellow flowers which appear in March or April. It is native from Asia Minor to Turkestan, ascending to 6,000 feet above sea level.

64299. *IRIS MUSULMANICA* Fomin.

An iris from the vicinity of Elisabethpol, Caucasus, which, according to the Moniteur du Jardin Botanique de

64289 to 64309—Continued.

Tiflis (vol. 14, 1909), inhabits brackish swamps. It is less than 2 feet tall, and the flowers are either sky-blue or yellowish.

64300. *IRIS TASCHIA* Hort.

A horticultural variety.

64301. *IRIS WINOGRADOWI* Fomin.

A Caucasian iris.

64302. *JUNIPERUS ISOPHYLLOS* Koch. Pinaceae. Juniper.

An oriental juniper described by Koch (Linnaea, vol. 22, p. 304) as a shrubby tree, with light-brown bark and ovate leaves. It differs from *Juniperus pseudo-sabina* in being smaller and having keeled leaves.

64303 to 64306. *PAEONIA* spp. Ranunculaceae. Peony.

64303. *PAEONIA ABCHASICA* Hort.

A horticultural variety.

64304. *PAEONIA MLOKSEWITSCHI* Lomakin.

According to Curtis's Botanical Magazine (pl. 8173), this is a herbaceous perennial peony, with dark bluish green biternate leaves with red nerves and margins. The yellow flowers are 4 to 5 inches across, with numerous stamens and purple stigmas. This peony, considered the handsomest of the yellow-flowered forms, is native to the central Caucasus.

64305. *PAEONIA TRITERNATA* Pall.

A tall herbaceous peony, with carrot-shaped roots, which resembles *Paenonia corallina*, but differs in having rounded leaves, green stems, and rose-colored or whitish flowers. It is native to southeastern Europe.

64306. *PAEONIA WITTMANNIANA* Hartwiss.

A herbaceous perennial peony 2 to 3 feet high, with biternate leaves 4 to 8 inches long and flowers about 4 inches across. The flowers are solitary, pale yellow, greenish or nearly white. Native to the Caucasus.

64307. *PINUS ELDARICA* Medw. Pinaceae. Pine.

An erect pine 40 to 50 feet high, native to southern Europe and western Asia, and closely related to the Aleppo pine (*Pinus halepensis*). It differs from the latter in having longer, more rigid leaves which are a deeper green.

64308. *PTEROCARYA FRAXINIFOLIA* (Lam.) Spach. (*P. caucasica* Meyer). Juglandaceae.

A handsome spreading tree 60 feet or less in height, with attractive dark-green pinnate leaves about a foot long. Its native land is the Caucasus, and it will probably not be hardy north of Massachusetts.

64309. *REICHARDIA DICHOTOMA* (Bieb.) Freyn. Cichoriaceae.

A perennial herbaceous composite, 2 to 3 feet high, native to Asia Minor, with a rosette of spatulate radical leaves and very small stem leaves. The white flowers are in rather large heads.

64310 to 64339.

From Harbin, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received June 19, 1925. Notes by Mr. Dorsett.

64310. *CANNABIS SATIVA* L. Moraceae.
Hemp.

No. 2802. Pniston, Harbin. May 5, 1925. From the market; said to be locally grown stock.

64311. *FAGOPYRUM VULGARE* Hill (*F. esculentum* Moench). Polygonaceae.
Buckwheat.

No. 2865. May 12, 1925. Obtained from a grain dealer in the Chinese section.

64312. *HELIANTHUS ANNUUS* L. Asteraceae.
Sunflower.

No. 2800. Pniston, Harbin. May 5, 1925. A large sunflower obtained in the market; said to be from stock growing near Harbin.

64313. *LINUM USITATISSIMUM* L. Linaceae.
Flax.

No. 2803. May 5, 1925. Presented by A. Dmelrieff, flax expert of the Chinese Eastern Railroad.

64314 and 64315. *NICOTIANA TABACUM* L. Solanaceae.
Tobacco.

64314. No. 2862. May 12, 1925. A round-leaved Russian tobacco obtained from a seed shop in the Chinese section.

64315. No. 2863½. May 12, 1925. A long-leaved Chinese variety grown in the vicinity of Harbin.

64316 to 64329. *PHASEOLUS* spp. Fabaceae.

64316 to 64319. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Adzuki bean.

64316. No. 2794. May 5, 1925. A small red bean said to be from local stock.

64317. No. 2870. May 12, 1925. A small white bean obtained in the Chinese section in a grain shop; reported to have come from stock grown in the vicinity of Harbin.

64318. No. 2871. May 12, 1925. *Hua hsiao tou* (flowered small bean), obtained from a seed shop in the Chinese section; said to have come from stock grown in the vicinity of Harbin.

64319. No. 2873. May 12, 1925. A small bluish or black mottled bean obtained from a grain dealer in the Chinese section and said to be from stock grown in the vicinity of Harbin.

64320. *PHASEOLUS AUREUS* Roxb.
Mung bean.

No. 2791. May 5, 1925. A green mung bean known as "lucky bean" and used for making vermicelli and for sprouts.

64321. *PHASEOLUS COCCINEUS* L.
Scarlet Runner bean.

No. 2861. May 11, 1925. *Jih Pin ta pai tou* (large white bean from Japan), from locally grown stock.

64310 to 64339—Continued.

64322 to 64329. *PHASEOLUS VULGARIS* L.
Common bean.

64322. No. 2790. May 5, 1925. A white garden bean with blotches of pink about the hilum, from Te-yuanyung, Harbin. It is used as a vegetable cooked with kaoliang.

64323. No. 2793. May 5, 1925. A large mottled variety reported to be from locally grown stock.

64324. No. 2796. May 5, 1925. A white garden bean used largely by the Japanese.

64325. No. 2801. Pniston, Harbin. May 5, 1925. A deep-pink or red garden bean obtained in the market, reported to have come from locally grown stock.

64326. No. 2863. May 12, 1925. A purple-flowered garden bean obtained from a grain shop in the Chinese section; reported to have come from stock grown in the vicinity of Harbin.

64327. No. 2864. May 12, 1925. *Huang yun tou*, or *Wu yueh hsien yun tou* (yellow garden bean, or fifth month ripening bean). Obtained from a seed shop in the Chinese section.

64328. No. 2867. May 12, 1925. *Chiao tan yun tou*, or *Hua yun tou* (bird-egg bean, or flowered garden bean). Obtained from a seed shop in the Chinese section.

64329. No. 2872. May 12, 1925. A long brown bean known as "pole bean from Japan"; obtained from a grain dealer in the Chinese section of the town and said to have come from stock grown in the vicinity of Harbin.

64330 and 64331. *PISUM SATIVUM* L. Fabaceae.
Pea.

64330. No. 2797. May 5, 1925. A white variety from locally grown stock.

64331. No. 2858. May 11, 1925. *Uo Kuo lu wan tou* (green field pea of Russia). This variety, said to have come from locally grown stock, originally came from Russia.

64332. *RAPHANUS SATIVUS* L. Brassicaceae.
Radish.

No. 2866. May 12, 1925. A large round bright-red radish obtained from a seed man in the Chinese section. These radishes are sometimes as much as 8 to 10 inches in diameter.

64333 to 64336. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae.
Soy bean.

64333. No. 2792. May 5, 1925. Yellow soy beans called in the Harbin market "round bean." These are the ones principally used in the manufacture of oil.

64334. No. 2795. May 5, 1925. *Jih Pin ta hei tou* (large black soy bean of Japan), from stock grown in the vicinity of Harbin. This variety seems as large as or larger than any other soy bean we have seen. They are boiled with milk and sugar.

64310 to 64339—Continued.

64335. No. 2798. May 5, 1925. Green-seeded soy bean from locally grown stock.

64336. No. 2859. May 11, 1925. A black soy bean, green inside, supposed to be from locally grown stock.

64337. *Vicia faba* L. Fabaceae.
Broad bean.

No. 2860. May 11, 1925. A rather small brown broad bean obtained in the market in the Chinese section; reported to be from locally grown stock. Known as "silkworm bean."

64338 and 64339. *Vigna sesquipedalis* (L.) Frutwirth. Fabaceae.
Yard Long bean.

64338. No. 2868. May 12, 1925. *Hsien ton chiao* (long pod thread bean), obtained from a grain dealer in the Chinese section.

64339. No. 2869. May 12, 1925. A small black bean, used as a vegetable; from the Chinese section.

64340 to 64420.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received June 25 and 26, 1925. Notes by Mr. Dorsett.

64340. *Anethum graveolens* L. Apiaceae.
Dill.

No. 2984. Harbin. May 14, 1925. *Ho Kuo hwei hsiao* (Russian fennel). This variety, from locally grown stock, grows about 3 feet in height. Used for seasoning soups and meats.

64341. *Apium graveolens* L. Apiaceae.
Celery.

No. 2908. May 14, 1925. Chinese celery from locally grown stock. These seeds were secured from a seed dealer in the Chinese section of Harbin. Used to fry with meat.

64342. *Avena nuda* Hoefer. Poaceae.
Naked oats.

No. 2912. May 15, 1925. *Chiao mai* (bird wheat). Seeds received from R. C. Flory, Liaochow, Shansi, who says they are quite common on the hills around Liaochow.

64343. *Avena sativa* L. Poaceae. Oats.

No. 2979. May 19, 1925. *Ling ta mia* (oats or ling barley). Manchurian oats procured in a grain shop in the Chinese section of Harbin, and said to have come from locally grown stock. This variety may be of Russian origin.

64344. *Brassica juncea* (L.) Coss. Brassicaceae. Chinese mustard.

No. 2909. May 14, 1925. *Chieh ts'ai ke ta* (rooted mustard). Obtained from a seed dealer in the Chinese section of Harbin; from locally grown stock. Used mostly for making pickles.

64345. *Brassica* sp. Brassicaceae.
Mustard.

No. 2910. May 14, 1925. A Chinese leafy mustard from locally grown stock, used as greens and in making salted vegetables. Obtained from a seed dealer in the Chinese section of Harbin.

64340 to 64420—Continued.

64346. *Brassica* sp. Brassicaceae.
Mustard.

No. 2920. May 15, 1925. Received from R. C. Flory, Liaochow, Shansi. Mr. Flory reports this mustard as being very commonly used for seasoning and for making plasters, etc.

64347. *Cannabis sativa* L. Moraceae.
Hemp.

No. 2915. May 15, 1925. Received from R. C. Flory, Liaochow, Shansi, which he reports is a very common variety.

64348 to 64350. *Capsicum annuum* L. Solanaceae. Red pepper.

64348. No. 2905. May 14, 1925. *Ho Kuo ta tien chin chiao* (large Russian sweet pepper), obtained from a seed dealer in the Chinese section of Harbin. When ripe the fruits are red and 3 to 3½ inches in diameter.

64349. No. 2906. May 14, 1925. *Hung chang chin chiao* (red long pepper), from locally grown stock. Obtained from a seed dealer in the Chinese section of Harbin. The fruit when ripe is red and about 4 inches long.

64350. No. 2907. May 14, 1925. *Yang chi chiao chin chiao* (goat horn pepper), from locally grown stock, obtained from a seed dealer in the Chinese section of Harbin.

64351. *Chaetochloa italica* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae.
Millet.

No. 2917. May 15, 1925. Yellow millet received from R. C. Flory, Liaochow, Shansi.

64352. *Chrysanthemum coronarium* L. Asteraceae.

No. 2891. May 14, 1925. *Teng hao* (cone artemisia). Locally known as "chrysanthemum salad." The leaves and petals of some chrysanthemums are eaten in China as a vegetable.

64353. *Citrullus vulgaris* Schrad. Cucurbitaceae. Watermelon.

No. 2901. Harbin. May 14, 1925. *Tai li hung hsi kua* (red-fleshed watermelon). The skin is striped light and dark green; the fruit is round and 10 to 12 inches in diameter.

64354 and 64355. *Coriandrum sativum* L. Apiaceae. Coriander.

64354. No. 2884. May 14, 1925. *Kao yen sui* (high coriander) obtained from a seed shop in the Chinese section of Harbin. The leaves and small leaf stems are chopped into fine pieces and used in seasoning soups and meats. This variety is said to grow like a shrub, being about 5 feet high, while the other variety, No. 2885 [S. P. I. No. 64355], said to have come originally from Shantung, grows only about a foot high.

64355. No. 2885. May 14, 1925. *As yen sui* (short coriander) obtained from a seed shop in the Chinese section of Harbin. This variety grows about 1 foot high.

64340 to 64420—Continued.

64356. *CORYLUS* sp. Betulaceae. Hazel.

No. 2934. May 15, 1925. Manchurian hazel obtained from the market in the Chinese section of Harbin, said to have come originally from Nientzeshan, about 75 miles north of Harbin. The shell is very thick, and the kernel is small but of very good quality.

64357 and 64358. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

64357. No. 2887. May 14, 1925. *Hu pi tsui kua* (tiger skin brittle melon) obtained in the Chinese section of Harbin. This melon, eaten mostly when boiled, is about 4 inches in diameter and 6 to 7 inches in length.

64358. No. 2893. Harbin. May 14, 1925. *Eo Kuo tien kua* (Russian melon). Mr. Skvortzow tells us that this is a hybrid between the Russian and Chinese varieties. The fruit, about 6 inches in diameter and 1 foot or more in length, is yellow and green.

64359 to 64361. *CUCUMIS SATIVUS* L. Cucurbitaceae. Cucumber.

64359. No. 2888. May 14, 1925. *Pai pi tsai kua* (white-skinned cucumber); a locally grown product. The fruit is 12 to 18 inches in length and is used as a vegetable boiled with meat.

64360. No. 2889. Harbin. May 14, 1925. *Kuai chang huang kua* (early ripening long cucumber), from locally grown stock. The fruit is a foot or more in length and is green inside.

64361. No. 2890. May 14, 1925. *Eo Kuo huang kua* (Russian common cucumber), grown generally about Harbin. It is from 5 to 6 inches long.

64362 and 64363. *CUCURBITA MAXIMA* Duchesne. Cucurbitaceae. Squash.

64362. No. 2896. Harbin. May 14, 1925. *Wo kua* (big pumpkin gourd). The yellow fruit is cut into small pieces, boiled, and eaten as a vegetable.

64363. No. 2921. May 15, 1925. *Nan kua* (white pumpkin), commonly grown by the farmers. Received from R. C. Flory, Liaochou, Shansi.

64364 and 64365. *CUCURBITA PEPO* L. Cucurbitaceae. Pumpkin.

64364. No. 2895. Harbin. May 14, 1925. *Eo Kuo hsi hulu* (Russian vegetable marrow). This pumpkin, of Russian origin, grows about 5 inches in diameter and 12 to 18 inches in length.

64365. These seeds, which are brown, were included in the lot sent in under Mr. Dorsett's No. 2921 [S. P. I. No. 64363].

64366. *FAGOPYRUM TATARICUM* (L.) Gaertn. Polygonaceae.

No. 2924. May 15, 1925. *K'u chiao mai* (bitter buckwheat), received from R. C. Flory, Liaochou, Shansi, which he reports as not being very common and which is made into cake flour.

64340 to 64420—Continued.

64367. *FAGOPYRUM VULGARE* Hill (*F. esculentum* Moench). Polygonaceae. Buckwheat.

No. 2923. May 15, 1925. R. C. Flory, of Liaochou, Shansi, who presented these seeds, says that they are common up on the hills. They are made into flour and used as food by the people.

64368. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

No. 2913. May 15, 1925. *Hung kao-liang* (red kaoliang). Received from R. C. Flory, Liaochou, Shansi. He reports that this material is commonly grown.

64369 and 64370. *HORDEUM VULGARE PALIDUM* Seringe. Poaceae.

Six-rowed barley.

64369. No. 2931. May 15, 1925. R. C. Flory, Liaochou, Shansi, who presented this material, gives the following note: Not very common in this vicinity but seen frequently in the market.

64370. No. 2977. May 19, 1925. *Chi Lin ta mai* (barley of Kirin, Manchuria) obtained from a seed shop in the Chinese section of Harbin. Said to be from locally grown stock.

64371 to 64373. *LAGENARIA LEUCANTHA* (Duchesne) Rusby. Cucurbitaceae. Gourd.

64371. No. 2902. Harbin. May 14, 1925. *Hsiao ya hulu* (small ornamental gourd). The fruit is about 4 inches in length.

64372. No. 2903. Harbin. May 14, 1925. *Ta ya hulu* (large ornamental gourd), which grows 12 inches long. From locally grown seed.

64373. No. 2904. May 14, 1925. *Ta hulu* (big gourd), from locally grown stock. This variety, used for making dippers, was obtained from a seed dealer in the Chinese section of Harbin.

64374. *LENTILLA LENS* (L.) W. F. Wight (*Lens esculenta* Moench). Fabaceae. Lentil.

No. 2830. May 15, 1925. *Hsiao pien tou* (small flat bean). Received from R. C. Flory, Liaochou, Shansi.

64375 to 64377. *PANICUM MILIACEUM* L. Poaceae. Proso.

64375. No. 2897. Harbin. May 14, 1925. *Kuai mei tze* (sticky millet), from locally grown stock. The Chinese make flour for bread out of this variety.

64376. No. 2918. May 15, 1925. *Nien ku tze* (glutinous millet), received from R. C. Flory, Liaochou, Shansi. He reports that this material is commonly used for food.

64377. No. 2919. May 15, 1925. *Mei tze* (Tsa millet), received from R. C. Flory, Liaochou, Shansi, who gives the following report: This variety is not so common as the above [S. P. I. No. 64376]. If the rains come late in the summer this can be planted and it will mature, whereas the common millet would not.

64340 to 64420—Continued.

64378 to 64404. *PHASEOLUS* spp. Fabaceae.

64378. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Adzuki bean.

No. 2929. May 15, 1925. *Hei hsiao tou* (black or mottled small bean), received from R. C. Flory, Liaochou, Shansi. He says this variety is used as food, and he thinks it is also made into bean curd.

64379. *PHASEOLUS AUREUS* Roxb. Mung bean.

No. 2914. May 15, 1925. According to R. C. Flory, of Liaochou, Shansi, who presented this variety, the name is *Lu tou* (green bean). It is commonly used as food and is especially used to produce sprouts.

64380. *PHASEOLUS COCCINEUS* L. Scarlet Runner bean.

No. 2899. Harbin. May 14, 1925. *K'an hua tou* (large-flowered bean). This variety produces large lavender and bluish black beans and large pink flowers.

64381 to 64404. *PHASEOLUS VULGARIS* L. Common bean.

64381. No. 2886. May 14, 1925. *Hsiao huang yun tou* (small yellow garden bean) obtained from a seed dealer in the Chinese section of Harbin. This is a rather small brownish yellow bean from stock said to be locally grown. We understand that this is not used very much as a green bean but is grown for the seed.

64382 to 64392. May 15, 1925. *P'a hsien tou* (string bean). These seeds, which were badly mixed, were received from R. C. Flory, Liaochou, Shansi. According to Mr. Flory, they are very common.

64382. No. 2916.

64383. No. 2916-A.

64384. No. 2916-B.

64385. No. 2916-C.

64386. No. 2916-D.

64387. No. 2916-E.

64388. No. 2916-F.

64389. No. 2916-G.

64390. No. 2916-H.

64391. No. 2916-I.

64392. No. 2916-J.

64393 to 64401. May 10, 1925. *Huang chiao tau ta tou* (yellow bird-egg bean), from locally grown stock, obtained in the Chinese section of Harbin. These seeds were very badly mixed.

64393. No. 2978. Creamy white streaked with brown.

64394. No. 2978-A.

64395. No. 2978-B.

64396. No. 2978-C.

64397. No. 2978-D.

64398. No. 2978-E.

64340 to 64420—Continued.

64399. No. 2978-F.

64400. No. 2978-G.

64401. No. 2978-H.

64402. No. 2980. May 19, 1925. *Pai yun tou* (white garden bean), said to be from locally grown stock. This variety, obtained in the Chinese section of Harbin, is a rather small white bean which somewhat resembles our navy bean.

64403. No. 2981. May 19, 1925. A yellowish brown mottled bean with a creamy base, obtained in the Chinese section of Harbin.

64404. No. 2985. Harbin. May 19, 1925. *Chiang mi tou* (white rice bean or small white bean), which is said to have come from locally grown stock. It is smaller than the one under No. 2980 [S. P. I. No. 64402].

64405 to 64407. *PISUM SATIVUM* L. Fabaceae. Pea.

64405. No. 2892. Harbin. May 14, 1925. *Ho Kuo wau tou* (Russian garden pea), said to be very good as a fresh vegetable. This variety, from locally grown stock, is said to be used also as a field pea.

64406. No. 2932. May 15, 1925. According to R. C. Flory, of Liaochou, Shansi, who sent this material to us, these field peas, or "round beans," as the Chinese call them, are not very common. They are sometimes grown on hills.

64407. No. 2982. May 19, 1925. A small variety, said to have come from locally grown stock, obtained from a grain dealer in the Chinese section of Harbin.

64408. *RICINUS COMMUNIS* L. Euphorbiaceae. Castor bean.

No. 2898. May 14, 1925. A small light and dark gray-brown mottled castor bean obtained from a shop in the Chinese section of Harbin. Said to be from locally grown stock.

64409 to 64414. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

64409. No. 2922. May 15, 1925. A small black bean, received from R. C. Flory, Liaochou, Shansi, who says that it is commonly grown and is used as an animal feed.

64410 to 64413. May 15, 1925. Received from R. C. Flory, and according to him they are common and very often used to make bean curd.

64410. No. 2925. Yellow soy beans.

64411. No. 2926. Soy beans of a rather dark-green color.

64412. No. 2927. A light-green variety.

64413. No. 2928. A brown soy bean which is nearly round.

64414. No. 2983. May 19, 1925. A small black soy bean, said to be from locally grown stock, obtained from a grain dealer in the Chinese section of Harbin.

64340 to 64420—Continued.

64415. *SPINACIA OLERACEA* L. Chenopodiaceae. Spinach.

No. 2900. May 14, 1925. Locally grown Chinese spinach, obtained from a shop in the Chinese section of Harbin.

64416. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 2911. May 15, 1925. Received from R. C. Flory, Liaochou, Shansi.

64417 to 64419. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

64417. No. 2916-K. May 15, 1925. Received from R. C. Flory, of Liaochou, Shansi, and according to him they are very common.

64418. No. 2916-L. May 15, 1925. Received from R. C. Flory, Liaochou, Shansi, who says they are very common.

64419. No. 2984. May 19, 1925. *Ma chian tou* (mottled cowpea), from locally grown stock, obtained from a grain dealer in the Chinese section of Harbin. The cowpeas are creamy at the base and have brownish red markings.

64420. *ZEA MAYS* L. Poaceae. Corn.

No. 2933. May 15, 1925. A small-grained yellow corn received from R. C. Flory, Liaochou, Shansi. He says this is plentiful as food for both man and beast. The people use it as a cake flour.

64421. *CITRUS* sp. Rutaceae.

From Simla, India. Plants presented by H. E. J. Peake, Khaltoo Fruit Orchards, Solan Brewery. Received May 6, 1925.

A wild lemon, indigenous to the Simla Hills, which is ideal as a citrus stock. (Peake.)

64422 to 64428.

From Morocco. Bulbs and seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 29, 1925. Notes by Doctor Fairchild.

64422 and 64423. *NARCISSUS* spp. Amaryllidaceae.

A beautiful species accustomed to remain dormant as bulbs in the scorching

64422 to 64428—Continued.

soils of the near desert for six months at least, and then, in the early spring, when the rains come, to send up their slender leaves and delicate flower stalks with one to three white, almost translucent, nodding flowers. Found by Graham Fairchild on the outcropping of rocks called the Socrat en Nemra, near Boulhaut, northern Morocco.

64422. *NARCISSUS* sp.

Bulbs.

64423. *NARCISSUS* sp.

Seeds.

64424. *NARCISSUS* sp. Amaryllidaceae.

These bulbs were collected on the mountain near Ouezzan.

64425. *ORNITHOGALUM UNIFOLIUM* (L.) Ker. Liliaceae.

According to Prof. R. Maire, this is an attractive species and worthy a place in the amateur's collection. It occurs wild in the region around Marchang and near Rabat, Morocco.

A tender bulbous plant, native to the Mediterranean region, with greenish flowers. It is about 6 inches high.

64426. *ROMULEA BULBOCODIUM* (L.) Sebest. and Mauri. Iridaceae.

Bulbs from the plateau between Oujda and Taza, Morocco. The Arab boys and women dig the tiny corms, which are good to eat and rather sweet, and tie them into bundles. The baked clay soil in this region is peppered with little rosettes made by the slender grasslike leaves.

For previous introduction see S. P. I. No. 63482.

64427 and 64428. *ROMULEA ENGLERI* Bequinet. Iridaceae.

The *Romulea* is somewhat like a small-flowered crocus. Prof. R. Maire says that this is one of the best.

According to Engler's *Botanische Jahrbücher* (vol. 38, p. 324), the violet flowers of this bulbous plant are borne singly or in few-flowered clusters on scapes about 20 inches high. The leaves, which are longer than the scape, are flattened cylindrical.

64427. Bulbs.

64428. Seeds.

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August 22, 1927

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<i>Bureau of Plant Industry</i>	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Office of Foreign Plant Introduction</i>	DAVID FAIRCHILD, <i>Senior Agricultural Explorer, in Charge</i> .

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INVENTORY No. 84



Washington, D. C.

Issued November, 1927

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM JULY 1 TO SEPTEMBER 30, 1925 (NOS. 64429 TO 65047)

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INTRODUCTORY STATEMENT

The Province of Manchuria, northeastern China, with an area of about 400,000 square miles, is largely an agricultural region. The winters are generally long and cold, with a minimum temperature sometimes as low as -40° F., while the summers are short and hot. Certain parts of the northwestern United States are subject to similar climatic conditions, and it is therefore of special interest that an agricultural explorer of this bureau, P. H. Dorsett, spent the greater part of the period covered by this inventory in Manchuria, with the result that large quantities of propagating material were collected. This material included such fruits as cherries, apricots, raspberries, and currents; also a number of native grasses and many miscellaneous vegetables and woody plants.

At the same time that Mr. Dorsett was in Manchuria, Doctor Fairchild was working along the northern coast of Africa and other parts of the Mediterranean countries, one of the oldest agricultural regions of the world. Among the most interesting plants sent in by Doctor Fairchild were those included in such leguminous genera as *Cytisus*, *Genista*, *Hedysarum*, *Lotus*, *Medicago*, *Scorpiurus*, and *Vicia*. Past experience has shown that plants from the Mediterranean region generally will thrive in the warmer sections of the Pacific States and parts of the Southwest, and many of the plants collected by Doctor Fairchild are promising, not only as forage but also as ornamentals. Among the latter were several species of iris, of value chiefly for breeding purposes, a native Moroccan grape hyacinth (*Muscari* sp., No. 64937), and two rockroses from Spain (*Cistus* spp., Nos. 65003 and 65004).

A specially selected collection of citrus-plant material (*Citrus* spp., Nos. 64603 to 64615) from the Botanic Garden at Buitenzorg, Java, was introduced through H. J. Webber, of the College of Agriculture at Berkeley, Calif. This included locally developed varieties and strains of oranges, shaddocks, and citrons, likely to prove of value to the citrus breeders of this country.

From the little-known region of South Australia has been received a unique collection of native shrubs of ornamental value (Nos. 64476 to 64497, 64798 to 64805). Most of these are previously unknown in American horticulture and have not been introduced previously by this office. Among the more interesting items may be mentioned *Balaustion pulcherrimum* (No. 64476), a prostrate myrtaceous shrub with rich red flowers an inch across, said to be

very rare in its native country; *Chorilaena quercifolia* (No. 64480), a tall rutaceous shrub, densely clothed with soft velvety hairs which assume a golden-yellow color; and *Melaleuca cordata* (No. 64802), a rigidly upright shrub with small round leaves and dense globular heads of small red flowers. A number of *Melaleucas* are already grown in the Pacific States, where their ability to grow rapidly and to resist drought, added to their ornamental quality, have made them popular.

The karoo bush (*Pentzia incana*, No. 64649) is held in high esteem in South Africa because it affords extensive pasturage for sheep. It is said to be able to withstand temperatures near zero Fahrenheit and is known to be very drought resistant. This introduction, therefore, should have special value for the Southwest on account of its possible value as a browse plant.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,

Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., May 7, 1927.

INVENTORY¹

64429. CITRUS GRANDIS (L.) Osbeck.
Rutaceae. Grapefruit.

From Los Banos, Philippine Islands. Budwood presented by J. E. Higgins, College of Agriculture. Received September 9, 1925.

In a letter of September 22, 1925, to this office, T. Ralph Robinson, of the Bureau of Plant Industry, states that this pummelo was noted by W. T. Swingle some years ago at Los Banos, where trees were being grown under C. A. No. 1427. The only name given it is "Better pummelo."

64430 and 64431. CHAENOMELES SUPERBA (Frahm) Rehder. Malaceae.

Shrubs growing in the permanent planting area at the Bell Plant Introduction Garden, Glenn Dale, Md. Numbered July, 1925, for convenience in distribution. Notes taken from the Journal of the Arnold Arboretum, volume 2, page 58.

64430. A handsome ornamental shrub which apparently is a hybrid between *Chaenomeles japonica* and *C. lagenaria*. It differs from *C. japonica* chiefly in the larger, but narrower, more sharply serrate, darker green leaves and in the larger deep-red flowers. From *C. lagenaria* it differs in the smaller leaves, the pubescent young branchlets, and in the more upright and compact habit.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction, and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in, so that definite identification can be made.

64430 and 64431—Continued.

64431. Forma alba. A form of the above with white flowers.

64432 to 64442.

From Rabat, Morocco. Bulbs collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received July 6, 1925. Notes by Doctor Fairchild.

64432. ARISARUM VULGARE Targ. Toz. Araceae.

A wild aroid which occurs in large quantities in the black gumbo soils around Kenitra. The medium-sized tubers, produced in this soil, are eaten by hogs.

64433. BIARUM BOVEI Blume. Araceae.

An aroidlike *Arisarum*, but producing larger tubers, found in black, sticky gumbo soil, about 60 miles north of Kenitra. R. Maire, of the University of Algiers, recommended it because it grows so abundantly and because the hogs are very fond of it.

64434. GLADIOLUS BYZANTINUS Mill. Iridaceae.

From the cork forest of Mamora, near Rabat. A slender delicate species with purple-red flowers and much more grasslike in habit than the cultivated forms generally. It might give delicacy of form to hybrids.

For introduction of seeds, see S. P. I. No. 64057.

64435 to 64439. IRIS spp. Iridaceae.

64435. IRIS ALATA Poir.

A low-growing species which grows wild in the wet gumbo soils about 66 miles north of Kenitra, Morocco. It is a purple-flowered species, and R. Maire tells me it is well worth growing in our borders for its large flowers which appear, in Algeria, during October and November. It produces numerous tubers on its roots.

For previous introduction, see S. P. I. No. 64190.

64436. IRIS FONTANESII Godr.

This species is very similar to *Iris tingitana*, but is much lighter in color. We found wild specimens nearly 5 feet high near Boulhaut, northern Morocco. Both of these species being bulbous, with their resting periods in the dry summer, they would be better adapted to southern California than to other iris-growing sections of the United States. These bulbs were collected by R. Maire.

64437. IRIS TINGITANA Boiss. and Reut.

Collected near Kenitra. A very tall, dark-purple species occurring wild in Tangier and along the roadsides throughout northern Morocco. At Kenitra the Arabs brought in armfuls of this iris, and under the electric light they appeared almost black.

64432 to 64442—Continued.

64438 and 64439. *IRIS* spp.

Two bulbous species, bearing blue flowers, found along the roadside between Meknes and Rabat.

64438. *IRIS* sp.

The plants of this species are 16 inches tall.

64439. *IRIS* sp.

A dwarf iris about 8 inches high.

64440. *LEUCOJUM AUTUMNALE* L. *Amaryllidaceae*.

A graceful white-flowered bulbous plant about a foot high which occurs in sandy soil in the forest of Mamora. It should be useful as a border plant in southern California.

64441. *NARCISSUS VIRIDIFLORUS* Schousb. *Amaryllidaceae*.

These bulbs were collected from the edge of a diya, or rainy season pond. R. Maire informs me that the flowers are clear green and that the plant is well worthy of cultivation by amateurs.

64442. *SCILLA PERUVIANA* L. *Liliaceae*.

Collected in the forest of Mamora. A very attractive plant worthy of naturalizing in the dry sandy soils in the oak forests of southern California, where conditions are similar to those of the cork-oak forest of Mamora. Its large hemispherical violet-blue inflorescence exhales a delicate odor of ether.

For previous introduction, see S. P. I. No. 63483.

64443. *CARPOTROCHE BRASILIENSIS* (Raddi) Endl. *Flacourtiaceae*.

From Bello Horizonte, Minas Geraes, Brazil. Seeds presented by Alvaro da Silveira, Chefe da Comissão Geographica e Geologica de Minas Geraes. Received September 18, 1925.

This tree is known here in Minas Geraes as "canudo de pita" or "sapucainha." From the seeds is prepared an ointment used for skin affections and a sirup said to cure leprosy. (*Silveira*.)

64444 to 64447.

From Harbin, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received September 22, 1925. Notes by Mr. Dorsett.

64444. *BETULA JAPONICA* Siebold. *Betulaceae*. Birch.

No. 4001. August 12, 1925. Collected by B. W. Skvortzow from trees growing in the parks. This is one of the common trees in this region; so far we have not seen any very large trees.

For previous introduction, see S. P. I. No. 39489.

64445. *PRUNUS JAPONICA* Thunb. *Amygdalaceae*. Cherry.

No. 3909. August 8, 1925. Obtained from a plant in B. W. Skvortzow's garden. The small bright-red fruits, appearing at this time of the year, make this an attractive ornamental shrub. The fruit is not very good to eat when fresh, but is used for making jams and preserves.

For previous introduction, see S. P. I. No. 60983.

64444 to 64447—Continued.

64446. *PRUNUS* sp. *Amygdalaceae*. Plum.

No. 3918. August 8, 1925. From B. W. Skvortzow's garden. This is the common yellow plum which grows here; Mr. Skvortzow thinks it is not a native species.

64447. *ROSA* sp. *Rosaceae*. Rose.

No. 3862. August 4, 1925. Rose hips obtained from plants growing in the new Russian cemetery.

64448. *PRUNUS* sp. *Amygdalaceae*. Cherry.

From Choni, Kansu, China. Seeds collected by J. F. Rock, Arnold Arboretum, Jamaica Plain, Mass. Received September 28, 1925.

Nos. 12432 and 12527. July, 1925. A bush cherry which grows wild on the mountains around here; it is 6 to 10 feet high, occasionally higher. It has dark-green glabrous leaves and long pink tubular flowers. (*Rock*.)

64449. *ALLIUM CEPA* L. *Liliaceae*. Onion.

From Palma, Majorca, Balearic Islands. Seeds purchased by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received September 30, 1925.

No. 202. August 23, 1925. The giant flat onion. A white variety which is an amazing onion as seen in Iviza, for it measures 6 inches in diameter and is only 2½ inches thick. The special manner of using it, which we found very good, is to boil the onion intact and serve singly on a plate with a dressing of oil and vinegar, such as is made for lettuce. (*Fairchild*.)

64450. *GOSSYPIUM HIRSUTUM* L. *Malvaceae*. Cotton.

From Tucuman, Argentina. Seeds presented by W. E. Cross, director, Tucuman Experiment Station. Received July 28, 1925.

Selected seed which is the result of a few years' selection from the conglomerate generally cultivated in this country. This cotton is known as the Chaco variety. (*G. L. Fawcett, Acting Director, Tucuman Experiment Station*.)

64451 to 64475.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received July 22, 1925.

64451. *AMARANTHUS PANICULATUS* L. *Amaranthaceae*.

No. 3138. June 1, 1925. *Hsi fau ku* or *yu tze ku* (fish-egg millet). This seed was procured from a farmer about 1½ miles from Ertientientze. The Chinese women of this vicinity pop the seed in a small iron ladle which is heated over a charcoal fire. (*Dorsett*.)

64452. *ANEMONE CHINENSIS* Bunge. *Ranunculaceae*.

No. 3100. Ertientientze. June 1, 1925. A rather attractive herbaceous plant, which grows on the hillsides on more or less level land. The flower stems are 18 to 20 inches high, and the flower or seed heads are similar to those of the dandelion.

64451 to 64475—Continued.

64453. *CAREX* sp. Cyperaceae. Sedge.

No. 3301. Harbin. June 14, 1925. Found in exposed dry places in the new Russian cemetery.

64454. *FALCATA JAPONICA* Oliver. Fabaceae.

No. 3131. June 1, 1925. A small leguminous vine growing in thick shrubby places on the hills about Ertientientze.

64455 and 64456. *HIEROCHLOE GLABRA* Trin. Poaceae. Grass.

64455. No. 3016. Harbin. May 23, 1925. Collected from plants growing in one of the small parks just at the top of the hill, en route from Fuchiatien to New Town.

64456. No. 3020. Harbin. May 24, 1925. Collected in the new Russian cemetery. This grass is peculiar in that the fruiting stalk contains practically no leaves. It is not a bunch grass and apparently spreads not only by seeds but through slender underground shoots.

64457 and 64458. *LONICERA PRAEFLORENS* Batal. Caprifoliaceae. Honeysuckle.

64457. No. 3083. Ertientientze. June 1, 1925. An edible-fruited honeysuckle which grows in the shade of good-sized trees. The fruits, about the size of peas, are bright red.

64458. No. 3266. Hungtaohotze. June 10, 1925. Obtained from plants growing in rather open timberland on the mountain ridges in one of the V. F. Kavolsky forest concessions. We ate quite a few of these fruits and can say that while they are not excellent we have eaten worse.

64459 and 64460. *PANICUM MILIACEUM* L. Poaceae. Proso.

64459. No. 3137. June 1, 1925. A glutinous red-seeded variety procured from a Chinese farmer about 1½ miles to the northeast of Ertientientze.

64460. No. 3140. June 1, 1925. A very dark, almost black shiny-seeded variety obtained from a Chinese farmer about 1½ miles northeast of Ertientientze.

64461. *POA* sp. Poaceae. Grass.

No. 3299. Harbin. June 14, 1925. Collected in a dry exposed place in the new Russian cemetery.

64462. *PRUNUS* sp. Amygdalaceae. Cherry.

No. 3174. Harbin. June 4, 1925. *Yen tai ying tao* (Chefoo cherry) obtained in the market and said to have been shipped in from Chefoo. The seeds are rather large and appear to be somewhat different from the ordinary cherry.

64463 to 64472. *ULMUS* spp. Ulmaceae. Elm.

64463. *ULMUS MACROCARPA* Hance.

No. 3156. Ertientientze. June 1, 1925.

64464 and 64465. *ULMUS PUMILA* L.

64464. No. 2986. May 20, 1925. Collected from trees, exposed to drought and severe cold, growing

64451 to 64475—Continued.

on a sandy knoll a mile or so to the north of Harbin, in bottomland across the Sungari River.

64465. No. 2995. May 22, 1925. Obtained from trees growing in the old Russian cemetery, located about two blocks east of the American legation. These trees are better shaped than the others.

64466 and 64467. *ULMUS JAPONICA* Sarg.

64466. No. 3072. May 31, 1925. Obtained from a tree located on the southwestern slope of the hill near Ertientientze. The leaves of this tree are more or less rough, and the fruits are small.

64467. No. 3127. Ertientientze. June 1, 1925.

64468 to 64471. *ULMUS PUMILA* L.

64468. No. 3128. Ertientientze. June 1, 1925. An attractive tree with pendulous branches.

64469. No. 3129. June 1, 1925. Collected on the hillside northeast of Ertientientze.

64470. No. 3132. Ertientientze. June 1, 1925. More or less cork was found on the branches of this tree.

64471. No. 3267. June 10, 1925. *Hsiao yueh hung yü shu* (small-leaved red elm). This variety was obtained in the river bottom in the V. F. Kavolsky forest concession about 20 miles from Hengtaohotze.

64472. *ULMUS LACINIATA* (Trautv.) Mayr.

No. 3065. May 31, 1925. From a small tree growing on a northern mountain slope to the northeast of Ertientientze. This species has rather long fruits and large leaves. The tree is said to be rather large, but so far we have seen only one small one.

64473 to 64475. *VIOLA* spp. Violaceae. Violet.

64473. *VIOLA VARIEGATA* Fisch.

No. 3105. Ertientientze. June 1, 1925. A species with cyclamenlike leaves, white along the veins, and light purple flowers.

64474. *VIOLA COLLINA* Bess.

No. 3106. Ertientientze. June 1, 1925. The large light-green leaves are produced on long stems; the stems and leaves are hairy.

64475. *VIOLA* sp.

No. 3130. June 1, 1925. A wild Chinese violet found on the hillsides to the northeast of Ertientientze.

64476 to 64497.

From Blackwood, South Australia. Seeds presented by W. L. Wheeler, Eden Hills, through Edwin Ashby, "Wittunga." Received July 31, 1925. Notes by Mr. Wheeler.

64476. *BALAUSTION PULCHERRIMUM* Hook. Myrtaceae.

A low prostrate shrub, native to Western Australia, with a short thick trunk, narrow rigid leaves, and large

64476 to 64497—Continued.

solitary rich-red flowers about an inch across. It is said to be very rare in its native country.

64477. *BOSSIAEA* sp. Fabaceae.

A shrub 6 to 15 feet high; very ornamental.

64478. *CALOTHAMNUS CHRYSANTHERUS* F. Muell. Myrtaceae.

A rather small shrub, native to Western Australia, described by Bentham (*Flora Australiensis*, vol. 3) as erect, with thick corky branches and thick, terete, sharp-pointed leaves 2 to 4 inches long. The chief beauty of the shrub lies in the bundles of deep-red stamens which protrude an inch or more from the yellowish flowers.

64479. *CASSIA PLEUROCARPA* F. Muell. Caesalpinaceae.

An Australian cassia, which, according to Bentham (*Flora Australiensis*, vol. 2) is a tall, erect shrub with rather thick linear leaflets and loose clusters of yellow flowers, the individual flowers being about three-fourths of an inch wide.

64480. *CHORILAENA QUERCIFOLIA* Endl. Rutaceae.

The branches of this tall Australian shrub are densely clothed with soft velvety hairs which often assume a golden-yellow color, according to Bentham (*Flora Australiensis*, vol. 1). The leathery oval leaves are about 3 inches long, densely covered below with velvety hairs.

64481. *CROWEA ANGUSTIFOLIA* Turcz. Rutaceae.

According to Bentham (*Flora Australiensis*, vol. 1) this low shrub from Western Australia has small, very narrow leaves and rather large red or white flowers about half an inch long, either solitary or in pairs.

64482. *CYANOSTEGIA ANGUSTIFOLIA* Turcz. Verbenaceae.

An erect shrub, native to Western Australia, which according to Bentham (*Flora Australiensis*, vol. 5) has small linear leaves and loose pyramidal panicles of small purple flowers.

64483. *HAKEA LAURINA* R. Br. Proteaceae.

A tall Australian shrub, 30 feet or less high, remarkable for its showy crimson flowers. These are in globular heads about 2 inches in diameter, from which the numerous golden-yellow styles protrude an inch or so in all directions.

64484 and 64485. *HAKEA MULTILINEATA* Meism. Proteaceae.

64484. This tall Australian shrub is closely related to the preceding (*Hakea laurina*), differing only in the venation of the leaves, the oblong shape of the flower cluster, and other minor characters.

64485. Variety *rhynchocarpa*, which has beaked fruits.

64486. *HELIPTERUM RUBELLUM* (A. Gray) Benth. Asteraceae.

An annual composite from Western Australia, with solitary heads of red flowers. Several species of this genus

64476 to 64497—Continued.

have become popular as "everlastings." This plant is about 8 inches high, with slender hairy stems and narrow alternate leaves.

64487. *HOVEA ELLIPTICA* (J. E. Smith) DC. Fabaceae.

A leguminous shrub, described by Bentham (*Flora Australiensis*, vol. 2) as up to 10 feet in height, with slender branches, small, narrowly oval leaves, and short axillary clusters of small blue flowers. Native to Western Australia.

64488. *KUNZEA SERICEA* (Labill.) Turcz. Myrtaceae.

A tall Australian shrub described by Bentham (*Flora Australiensis*, vol. 3) as having rigid, tortuous branches and silvery white, very stiff leaves less than an inch in length. The yellowish flowers are either solitary or in terminal clusters.

64489. *LEUCOPOGON VERTICILLATUS* R. Br. Epacridaceae.

The leaves of this Australian shrub are crowded at the ends of the branches in such a manner as to appear verticillate, according to Bentham (*Flora Australiensis*, vol. 4). The shrub is tall and erect, and the small reddish flowers are in slender spikes.

64490. *MARIANTHUS ERUBESCENS* Putterl. Pittosporaceae.

A perennial twining vine with red flowers, collected in Merredun, Western Australia.

64491. *MELALEUCA VIOLACEA* Schauer. Myrtaceae.

A handsome shrub, native to Western Australia, which according to Bentham (*Flora Australiensis*, vol. 3) is low and spreading in habit, with rigid small oval leaves and terminal heads or small clusters of purple-red flowers.

64492. *MELALEUCA* sp. Myrtaceae.

A shrub 4 feet high.

64493. *PHEBALIUM TUBERCULOSUM* (F. Muell.) Benth. Rutaceae.

A yellow-flowered, narrow-leaved evergreen shrub from Western Australia which might be suitable for coolhouse culture in the northern United States, or perhaps for growing out of doors in the south. The plant becomes about 4 feet high and blooms early in the spring.

64494. *PITYRODIA TECKIANA* (F. Muell.) E. Pritz. Verbenaceae.

A low shrub, about 2½ feet high, clothed with cottony wool and thickly covered with sessile linear leaves. The green and yellow flowers are solitary or in clusters. Native to Victoria, Australia.

64495. *SIDA CALYXHYMENIA* J. Gay. Malvaceae.

According to Bentham (*Flora Australiensis*, vol. 1), this is an erect shrub, entirely covered with a whitish pubescence, with yellow flowers, solitary or in twos. Native to southern and Western Australia.

64496. *THOMASIA BRACHYSTACHYS* Turcz. Sterculiaceae.

A tall hairy shrub from Western Australia, which is described by Ben-

64476 to 64497—Continued.

tham (*Flora Australiensis*, vol. 1) as having heart-shaped leaves and dense clusters of small white flowers.

64497. *TRYMALIUM* BILLARDIERI Fenzl.
Rhamnaceae.

A tall shrub, about 12 feet high, with broadly oval leaves and loose clusters of greenish-yellow flowers. Native to Western Australia.

64498. *GOSSYPIUM BARBADENSE* L. Mal-
vaceae. Cotton.

From Nassau, Bahamas. Seeds presented by F. C. M. Albury, secretary, Board of Agriculture. Received August 5, 1925.

A sample of this cotton was recently sent to England and the following report was received: Color good, staple $1\frac{1}{8}$ inches long, strong, rather irregular in length, and rougher than American. (*Albury*.)

64499 to 64501. *COIX LACRYMA-JOBI* MA-
YUEN (Rom.) Stapf. Poaceae.

Adlay.

From Manila, P. I. Seeds presented by S. Youngberg, acting director, Bureau of Agriculture. Received August 7, 1925.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

64499. Dark-brown ma-yuen.

64500. Light-brown ma-yuen.

64501. White ma-yuen.

64502. *GOSSYPIUM* sp. Malvaceae.
Kidney cotton.

From San Juan, P. R. Seeds presented by C. A. Figueroa, assistant agricultural adviser, Department of Agriculture and Labor. Received August 12, 1925.

Locally grown seeds.

64503 and 64504.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received July 17, 1925. Notes by Mr. Dorsett.

64503. *ARACHIS HYPOGAEA* L. Fabaceae.
Peanut.

No. 3722. Harbin. July 18, 1925. This variety, the smallest we have seen since arriving here, is said to have been shipped in from Kalgan, Chihli Province.

64504. *ULMUS PUMILA* L. Ulmaceae.
Elm.

No. 3395. Tsitsihar. June 22, 1925. This may prove to be more cold resistant in the northern United States than the type now growing there.

64505 and 64506. *FRAGARIA* spp. Rosa-
ceae. Strawberry.

From Dundas, New South Wales. Plants presented by Herbert J. Rumsey. Received July 31, 1925. Notes by Mr. Rumsey.

Varieties not offered by American nurserymen.

64505 and 64506—Continued.

64505. *FRAGARIA* sp.

Fendalcino (Etters). This is a solid-fruited variety with very robust foliage. The berries, deep red and of fine size, are produced in regular crops well into the summer. The plants stand drought well, and this promises to be a magnificent commercial variety as well as one for the home garden.

64506. *FRAGARIA* sp.

Illawarra. This variety, as the name implies, is a local seedling. It is said to be a cross between an American variety called Gandy, which it somewhat resembles, and Cresswell's Seedling. The fruit of Illawarra is particularly handsome, its prominent seeds studding the enormous fruits like jewels. The large bright-green cap makes it very handsome, and it is no uncommon event to find from one to six large fruits in a bunch, each weighing from 1 to 2 ounces.

64507. *SACCHARUM OFFICINARUM* L.
Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortún, director, Estación Experimental Agronómica. Received September 22, 1925.

D. 247.

A locally grown strain.

64508 and 64509.

From Jalisco, Chiapas, Mexico. Seeds presented by C. A. Purpus, Zacuapam, Huatusco, Vera Cruz, Mexico. Received August 7, 1925.

64508. *ANNONA MURICATA* L. Annonaceae.
Soursop.

A local variety.

64509. *GOSSYPIUM* sp. Malvaceae. Cotton.

A variety grown in Oaxaca, Mexico.

64510. *MIMUSOPS ZEYHERI* Sond. Sa-
potaceae.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, division of botany. Received August 12, 1925.

Moepel.—This magnificent shade tree is evergreen and bears an edible fruit with which H. L. Shantz was very much taken when he was last here. It grows along the western slopes of the Magaliesburg Range and extends from Pretoria westward to Zeerust. (*Pole Evans*.)

According to Harvey and Zonder (*Flora Capensis*, vol. 4, sec. 1, p. 441), this tree has long-stemmed narrow leaves about 4 inches long, and edible drupes, about an inch long, with sweet-flavored flesh.

For previous introduction, see S. P. I. No. 50165.

64511. *CANAVALI PLAGIOSPERMA* Piper.
Fabaceae.

From Port of Spain, Trinidad, British West Indies. Seeds presented by W. G. Freeman, director, Department of Agriculture. Received August 14, 1925.

This plant, known here under the name of *Canavalia gladiata*, is a weak climber

and is usually grown as a bush bean. It appears to be intermediate between *C. gladiata* and *C. ensiformis*. (Freeman.)

For previous introduction, see S. P. I. No. 52861.

64512. CROTALARIA sp. Fabaceae.

From Southern Provinces, Nigeria, Africa. Seeds presented by D. H. Urquhart, superintendent of agriculture, Umuahia Agricultural Station. Received August 19, 1925.

Introduced for trial as a cover crop in the United States.

64513. HELIANTHUS TUBEROSUS L. Asteraceae. Jerusalem artichoke.

From Auckland, New Zealand. Tubers purchased from Arthur Yates & Co. Received August 19, 1926.

Locally grown tubers.

64514 to 64517. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Rio de Janeiro, Brazil. Cuttings presented by Antonio Carlos Pentana, director, General Experiment Station, Campos. Received August 25, 1925.

Locally grown strains.

64514. 2443-C. 64516. 4473-C.

64515. 3100-C. 64517. 4475-C.

64518. DAHLIA sp. Asteraceae.

From Cayoacan, D. F., Mexico. Cuttings presented by Mrs. Zelia Nuttall. Received February 14, 1925. Numbered July, 1925.

A giant or tree dahlia, up to 20 feet in height, with great panicles of single rosy mauve blossoms. (Nuttall.)

The tree dahlias are native to tropical America and are tropical in cultural requirements.

64519. GARCINIA MANGOSTANA L. Clusiaceae. Mangosteen.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received August 27, 1925.

Mangosteen seeds introduced for testing in the tropical dependencies of the United States.

For previous introduction, see S. P. I. No. 61301.

64520 and 64521.

From San Remo, Italy. Seeds presented by Mario Calvino, Stazione Sperimentale di Floricoltura. Received August 19, 1925. Notes by Doctor Calvino.

64520. LOTUS sp. Fabaceae.

A very rare leguminous plant, about 1 meter in height, suitable for growing in wet soil.

64521. PSORALEA BITUMINOSA L. Fabaceae.

A leguminous perennial which thrives in dry calcareous soil. It has blue flowers and is native to the Mediterranean countries.

64522 to 64526.

From Kotgarh, Simla Hills, Punjab, India. Seeds collected by S. E. Stokes and Richard B. Gregg. Received August 20, 1925. Notes by Mr. Gregg.

64522. ELEUSINE CORACANA (L.) Gaertn. Ragi. Poaceae.

July 4, 1925. Local native name, Koda.

64523. HORDEUM VULGARE PALLIDUM Se- Six-rowed barley. ringe. Poaceae.

July 3, 1925. A bearded barley.

64524. HORDEUM sp. Poaceae. Naked barley.

July 3, 1925. Beardless barley.

64525. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceae. Common wheat.

July 15, 1925. Red winter wheat which ripened about June 1, 1925. These seeds are the best kernels from 17 selected ears.

64526. ZEA MAYS L. Poaceae. Corn.

June 20, 1925. Maize, a relatively quick-ripening variety.

64527 to 64530.

From Westport, West Coast, New Zealand. Seeds presented by D. McLellan, Sergeants Hill. Received August 20, 1925.

64527. DANTHONIA PILOSA R. Br. Poa- Grass. ceae.

In Australia this is considered an excellent pasture grass; it seeds freely and gives good fodder in early spring.

For previous introduction, see S. P. I. No. 49017.

64528. HOLCUS SORGHUM SUDANENSIS (Piper) Hitchc. Poaceae. Sudan grass.

A local strain.

For previous introduction, see S. P. I. No. 50781.

64529. POA sp. Poaceae. Grass.

64530. TRIFOLIUM SUBTERRANEUM L. Fabaceae. Subterranean clover.

Experiments carried on by the Office of Forage-Crop Investigations and by State experiment stations in cooperation with this department during 1921 and 1922 have established the fact that this clover will survive the winter as far north as Knoxville, Tenn. At this station, as well as several others, the plants from fall seeding made some growth in the fall, held their own during the winter, and made a rapid and heavy growth early in the spring of 1922. This clover made a strong growth on sandy land at McNeill, Miss.; in this case finely ground bone meal had been used as fertilizer. Preliminary trials have been encouraging, and the department is making further tests. (A. J. Pieters, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 55707.

64531 to 64535. CROTALARIA spp. Fabaceae.

From Nairobi, Kenya Colony, British East Africa. Seeds presented by J. McDonald, Scott Agricultural Laboratories.

64531 to 64535—Continued.

Received August 22, 1925. Notes by Mr. McDonald.

A collection of crotalarias introduced for testing as cover-crop plants in the southern United States.

64531. CROTALARIA JUNCEA L.

Sunn hemp.

No. 1. An erect yellow-flowered annual, 4 to 5 feet high, native to tropical Asia generally. It is cultivated in many places in India and also in northern Ceylon for the sake of the strong and useful fiber obtained from the stems. This fiber is used in India for making coarse canvas, cordage, and fishing nets, and an average yield is about 640 pounds an acre. A light rich soil is considered best for growing this plant, although with cultivation it may be grown on almost any soil.

For previous introduction, see S. P. I. No. 44124.

64532. CROTALARIA INTERMEDIA Kotschy.

No. 2. From the Scott Agricultural Laboratories.

64533. CROTALARIA sp.

No. 3. Collected on a roadside in the forest, Mile 8, Londiani, Eldoret Road.

64534. CROTALARIA sp.

No. 4. Collected in a rather dry situation along a roadside.

64535. CROTALARIA DILLONIANA Baker.

No. 5. From Muhoroni. A low erect herbaceous plant with pale-green trifoliate leaves and purple-striped yellow flowers in dense terminal racemes up to 6 inches in length.

64536. COMBRETUM COCCINEUM (Sonner.) Lam. Combretaceae.

From Addis Ababa, Abyssinia. Seeds presented by Charlotte Lambie, through H. V. Harlan, Bureau of Plant Industry. Received August 31, 1925.

A handsome woody climber from Madagascar with narrow evergreen leaves and small but brilliant-red flowers; these are in loose spikes or panicles and are characterized by long exserted stamens. It should be tried in the southern end of Florida.

64537. CUPHEA BALSAMONA Cham. and Schlecht. Lythraceae.

From Bahia, Brazil. Seeds presented by Rev. P. Camillo Torrend, Collegio Antonio Viera. Received August 25, 1925.

According to an article published in *Chacaras E Quintaes* (vol. 31, p. 426, May 15, 1925) by Father Torrend, this plant has acquired an excellent reputation in southern Brazil as forage. Even when other fodder plants are abundant, cattle are said to consume with avidity the "barba de San Pedro," as it is called.

64538. VITIS sp. Vitaceae.

From Ambato, Ecuador. Cuttings presented by Augusto H. Martinez, Escuela de Agricultura. Received September 9, 1925.

When at Ambato in February of this year [1925] I saw this grape growing in the quinta La Liria, belonging to the Martinez family. Augusto Martinez informed me that this plant was brought to Ambato

from the region of Santo Domingo de los Colorados, where it grows wild. Due probably to the cool climate of Ambato, as compared with that of Santo Domingo (which lies at a low elevation on the western slope of the Andes), the plant fails to produce fruit at La Liria, but it vegetates luxuriantly and flowers profusely.

In general appearance the plant resembles *Vitis caribaea*, yet I believe it to be distinct from that species. Don Augusto says that it bears an edible fruit of good quality and that it may prove to be of value in connection with the development of new grapes for tropical regions. It should be planted in Florida and the West Indies for use in breeding work. (*Wilson Popeoe, Bureau of Plant Industry.*)

64539. FRAGARIA sp. Rosaceae.

Strawberry.

From Hingan, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received August 25, 1925.

No. 3583. July 3, 1925. A fruit having a very pleasant odor. (*Dorsett.*)

64540. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceae. Common wheat.

From Angers, France. Seeds presented by F. B. Godineau. Received September 14, 1925.

This variety is the Early of Milly, which is a selection of Gentile Rosse. It has a rougher straw and a longer spike than the latter and is more accustomed to the cold weather, having been grown in the north of France for several years. (*Godineau.*)

64541. FUNTUMIA ELASTICA (Preuss) Stapf. Apocynaceae.

Lagos rubber tree.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received September 19, 1925.

A large forest tree which is very widely distributed throughout central Africa and is the source of the Lagos rubber of commerce.

For previous introduction, see S. P. I. No. 61491.

64542. HEVEA BRASILIENSIS (H. B. K.) Muell. Arg. Euphorbiaceae.

From Bayeux, Haiti. Seeds presented by L. G. Polhamus, Bureau of Plant Industry. Received September 23, 1925.

The Para rubber tree, native to Brazil and now extensively cultivated in the East Indies, has always ranked as the principal and most important rubber-producing tree in the world.

In 1922 the world's production of rubber amounted to 379,200 tons, of which 354,980 tons, or 93 per cent, came from this source. (*Alfred Keys, Bureau of Plant Industry.*)

For previous introduction, see S. P. I. No. 57943.

64543 to 64546. GOSSYPIMUM spp. Malvaceae. Cotton.

From Papeete, Tahiti, Society Islands. Seeds presented by Père Emmanuel Rougier. Received September 10, 1925. Notes by Père Rougier.

Locally developed varieties.

64543 to 64546—Continued.

64543 and 64544. *GOSSYPIMUM BARBADENSE* L.

64543. *Metafi*. Introduced here recently as Algerian cotton.

64544. *Tahiti* cotton, which is probably a hybrid of several species introduced into this colony. Our agricultural expert, Mr. Brugiroux, thinks it is the variety best suited for our needs.

64545. *GOSSYPIMUM* sp.

Caledonian. From New Caledonia and New Hebrides; recently introduced.

64546. *GOSSYPIMUM* sp. Kidney cotton.

Taone, which is probably a hybrid of several species introduced into this colony.

64547. *CAPSICUM ANNUUM* L. Solanaceae. Red pepper.

From Mahon, Minorca, Balearic Islands. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received September 30, 1925.

No. 218. August 24, 1925. A superb variety discovered by Mr. Armour in the little market at Mahon. It is 4 inches long, 2 inches in diameter, and of a conical shape almost identical with that of the Hachiya variety of Japanese persimmon. The color is exceptionally clear and attractive, and the flavor is excellent. (*Fairchild*.)

64548. *ILLECEBRUM VERTICILLATUM* L. Silenaceae.

From Rabat, Morocco. Roots collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 29, 1925. Numbered July, 1925.

A tall graceful plant which is a perennial occurring in the cork forests around Boulhaut, northern Morocco. The pendent white flowers are produced in April, and the bulbs are subjected to six months of drought in the sandy-argillaceous soils of this region. These roots were found by R. Maire near an outcropping of rocks called Socrat en Nemra. (*Fairchild*.)

64549. *ASPARAGUS ALTISSIMUS* Munby. Convallariaceae.

From Marrakesh, Morocco. Seeds presented by Auguste Tornezy, inspector of agriculture, Marrakesh, through David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received September 30, 1925.

No. 187. June 1, 1925. A tall-growing, slender species, probably from the Great Atlas Mountains, which may prove of value as a greenhouse plant for its attractive sprays. (*Fairchild*.)

64550 to 64552.

From Kotgarh, Simla Hills, Punjab, India. Seeds collected by S. E. Stokes and Richard E. Gregg. Received July 18, 1925. Notes by Mr. Gregg.

64550. *BRASSICA* sp. Brassicaceae.

June 4, 1925. *Baraf Gobi* (snow cabbage) is planted the end of June, during the early rains, and matures in the late

64550 to 64552—Continued.

autumn. It is not cut and gathered like our cabbage, but is left in the field, and the leaves are broken off and used as needed, as are those of spinach and chard. This cabbage remains green all during the snows, and only attains its best flavor after the first frosts and snows. It therefore furnishes fresh greens during the winter, even as late as April.

64551. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

June 2, 1925. *Kotgarh*, red-bearded winter wheat, is planted in this region during September and October and ripens during the latter part of May. It has a strong stem, does not lodge easily, and endures heavy snows. It is especially liked because it does not tend to sprout during the heavy rains which are apt to occur during the harvest season.

64552. *ZEA MAYS* L. Poaceae. Corn.

June 8, 1925. This variety of maize ripens very quickly compared with most other varieties, as it is planted after the other corn has gotten a good start, and ripens about the same time. It is planted about the first week in June and ripens in about 90 days. Compared with the American corn, the kernels are small.

64553 and 64554. *HEDYSARUM* spp. Fabaceae.

From Oran, Algeria. Seeds presented by Herbiere A. Faure. Received July 20, 1925.

64553. *HEDYSARUM CAPITATUM* Desf.

An annual ascending leguminous plant with purple flowers. Native to the Mediterranean countries.

64554. *HEDYSARUM PALLIDUM* Desf.

A perennial procumbent leguminous plant, native to northern Africa, where it thrives on steep hillsides.

64555. *ARUNDINARIA ALPINA* Schum. Poaceae. Bamboo.

From Nairobi, Kenya Colony, British East Africa. Seeds presented by the conservator of forests, Forest Department. Received July 17, 1925.

A bamboo with narrow leaves about 3 inches long and less than half an inch wide and large lax panicles composed of small spikelets a little more than an inch in length.

64556. *PROSOPIS NANDUBEY* Lorentz. Mimosaceae.

From Montevideo, Uruguay. Seeds presented by Luis Guillot, director técnico, Dirección General de Paseos Públicos. Received July 25, 1925.

A Uruguayan tree which, according to Arechavaleta (*Flora Uruguaya*, vol. 1, p. 419), is considered valuable timber because of the great durability of the wood which is used for various industrial purposes. The numerous small flowers appear in the spring, and the sickle-shaped pods inclose pulp of acid flavor.

For previous introduction, see S. P. I. No. 57936.

64557. OMPHALEA OLEIFERA Hemsl.
Euphorbiaceae.

From Moyuta, Guatemala. Seeds presented by Francisco Morcucci. Received July 27, 1925.

This Central American tree, known in Guatemala as palo de queso and hoja de queso, is called tambor in Salvador, according to Standley (Pharmaceutical Journal, vol. 110, p. 489). The main value of the tree lies in the fruit and seeds. From the latter is obtained an oil with the same properties as castor oil, but with an agreeable flavor. This oil is also used for making soap, for illumination, and in cooking. The immature fruits when boiled are said to have an excellent flavor, and the ripe seeds are eaten as a delicacy.

64558. VIOLA GUATEMALENSIS (Hemsl.) Warburg. Myristicaceae.

From San Antonio Sachitepequez, Guatemala. Seeds presented by Jorge G. Salas, director general de agricultura, City of Guatemala. Received July 27, 1925.

A Central American tree which, according to O. Warburg (Monographie der Myristicaceen, p. 220), bears fruits which yield a valuable oil. The natives of Guatemala collect the oil for making soap and candles.

64559. PSIDIUM GUAJAVA L. Myrtaceae. Guava.

From Victoria, Cameroon, West Africa. Seeds presented by F. J. Evans. Received July 27, 1925.

An exceptionally good white variety. (Evans.)

64560 to 64565.

From Kenitra, Morocco. Seeds presented by Gaston Durand, inspecteur d'agriculture. Received July 27, 1925.

64560. ANCHUSA UNDULATA L. Boraginaceae.

A hardy perennial, about 2 feet high, with panicked clusters of purple flowers. It is native to Spain and thrives best in sunny locations.

64561. LAVATERA sp. Malvaceae.

A number of lavateras have very showy flowers, sometimes 2 to 4 inches across, and variously colored. They are either herbaceous or shrubby and mostly native to the Mediterranean countries.

64562. MALCOMIA LITTOREA Ait. Brassicaceae.

An annual branching plant, a foot or less in height, with large showy pink-purple flowers in loose racemes. It is native to the western Mediterranean countries.

64563. MALOPE sp. Malvaceae.

These are showy annuals belonging to the mallow family, all native to the Mediterranean region. In height they range from 1 to 3 feet, and the flowers are violet, pink, or white.

64564. TRIFOLIUM sp. Fabaceae. Clover.**64565. IRIS TINGITANA Boiss. and Reut.** Iridaceae.

An iris originally discovered in the vicinity of Tangiers, Morocco, whence it was introduced into cultivation several

64560 to 64565—Continued.

years ago. The stout stems, about 2 feet high, are one or two-headed, and the flowers are borne in clusters of two or three. The standards are bright lilac, about 3 inches long, and the falls are flushed with yellow in the center. Introduced for iris breeders.

64566. BAUHINIA ESCULENTA Burchell. Caesalpiniaceae.

From Kirstenbosch, Cape Province, Union of South Africa. Seeds presented by R. H. Compton, director, National Botanic Garden. Received July 27, 1925.

The "Tamani berry" or "Gemsbok bean," native to South Africa, is described in the Journal of the Department of Agriculture of the Union of South Africa (vol. 8, p. 613) as a leguminous plant whose seeds form the staple diet of the Kalahari bushmen; animals are also very fond of the seeds, which are excellent for fattening. The seed kernels are rich in protein and oil, the latter resembling cottonseed oil.

64567. SACCCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortún, director, Estación Experimental Agronómica, through E. W. Brandes, Bureau of Plant Industry. Received August 7, 1925.

A locally grown strain.

64568 to 64586.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received July 28, 1925. Notes by Mr. McClure.

64568. MYRICA RUBRA Sieb. and Zucc. Myricaceae.

No. 168. Shuisaits'uen, Lohkongtung. May 23, 1925. *Yung mui*. This is a very handsome tree, averaging 5 or 6 meters in height, with dark-green glossy foliage which sets off to fine advantage the bright-red to pink fruits. The fruits are globular in shape and quite acid in flavor. Owing to their fragility and peculiar structure they do not ship well, but small leafy branches distributed among them as they are placed in the baskets are said to protect them somewhat. The fresh fruits are too soft to appeal to the Chinese palate, and they are used for the most part in much the same manner as the *Tsing mui* (*Prunus mume*), that is, salted and dried.

64569 to 64582. PRUNUS MUME Sieb. and Zucc. Amygdalaceae. Japanese apricot.

Tsing mui. The fruits of this group are so sour that they are rarely eaten fresh. The most common method of treatment is to place them in large wooden vats having a capacity of nearly 400 cubic feet, with salt at the rate of 1.3 pounds of salt to 10 pounds of fruit. By means of mats and stones the fruits are weighted down and kept in this condition for 10 days or so. They are then spread out on bamboo trays and dried in the sun. When dry they are white with an incrustation of salt. They may be kept indefinitely in this condition so long as they are kept dry. They are used by confectioners to make a great variety of confections, most of which have as their chief flavoring principles licorice and saccharine.

64568 to 64586—Continued.

The following material was obtained during the middle of May, 1925, from trees growing in the Canton Christian College orchards:

64569. No. 152. *Taai wat tsing mui*.
 64570. No. 153. *Ngoh shue mui*.
 64571. No. 154. *Waang wat mui*.
 64572. No. 155. *Taai mui*. This variety is distinguished from the other members of the *tsing mui* group by the following characteristics: It has larger, almost circular leaves with long acuminate tips, the fruits are larger than the average size, and the branches are fewer and stouter.
 64573. No. 156. This variety is said to be identical with *taai mui*, No. 155 [S. P. I. No. 64572].
 64574. No. 157. *Wong mui*. I find that on the markets the name *wong mui* (yellow mui) is applied only to those that have turned yellow in ripening.
 64575. No. 158. *Taai wat tsing mui*. The same as No. 152 [S. P. I. No. 64569], but from trees with a different ancestry.
 64576. No. 159. *Ngoh shue mui*. This material is the same as No. 153 [S. P. I. No. 64570], but from trees with a different ancestry.
 64577. No. 160. *Waang wat mui*. The same as No. 154 [S. P. I. No. 64571], but from trees having a different ancestry.
 64578. No. 161. *Cha ip mui*. This member of the *tsing mui* group is said to be distinguished from the other members by having slightly thinner skin, for which reason it bruises more easily in transit.
 64579. No. 162. *Waang wat mui*. The same as Nos. 154 and 160 [S. P. I. Nos. 64571 and 64577], but it is from trees with a different ancestry.
 64580. No. 163. *Paak uen tau mui*. The same as No. 156 [S. P. I. No. 64573], but from trees with a different ancestry.
 64581. No. 164. *Taai wat tsing mui*. The same as Nos. 152 and 158 [S. P. I. Nos. 64569 and 64575], but from trees having a different ancestry.
 64582. No. 165. *Hang mui chi*.
 64583. *PRUNUS SALICINA* Lindl. Amygdalaceae.
 No. 167. May, 23, 1925. *Hang mui*. Purchased from Mr. Chung Ch'iu Chue, of Shuisatsuen, Lohkongtung. This fruit belongs in a group with No. 169 [S. P. I. No. 64584] and is quite distinct from the *tsing mui* group, Nos. 152 to 165 [S. P. I. Nos. 64569 to 64582]. This tree has an upright habit not to be found in any of the other muis. The leaves are lanceolate, acuminate, and serrulate; the fruits are globular, pale yellow when ripe, and have a slightly pubescent skin. The flesh is golden yellow, mealy in texture, but rather fibrous near the seed, to which it adheres. The flesh is sweeter and more fragrant than that of any of the *tsing muis*, although it is slightly inferior in these respects to No. 169 [S. P. I. No. 64584].

64568 to 64586—Continued.

64584. *PRUNUS SALICINA* Lindl. Amygdalaceae.

No. 169. *Hang mui*. Obtained during the middle of May, 1925, from trees growing in the Canton Christian College orchards. This fruit belongs in a group with *hang mui*, No. 167 [S. P. I. No. 64583], which is quite distinct from the *tsing mui* group, Nos. 152 to 165 [S. P. I. Nos. 64569 to 64582]. The tree has slender branches and a spreading habit; the leaves are lanceolate, acuminate, and serrulate, and can not be distinguished from those of *hang mui*. The fruits are globular in shape, and the purplish red skin is slightly pubescent. The golden-yellow flesh is slightly juicy, sweet, and fragrant, but near the seed, which is a cling, it is fibrous, sour, and bitter. By the addition of 1 part of sugar to 1 part of the flesh, including the skin, and rapidly cooking for a short time, an attractive and delicious jam may be prepared. These fruits also make excellent pies which have a spicy fragrance and flavor. The fruits are never salted by the Chinese, but are eaten fresh. They soften much more quickly after picking than do the fruits of the *tsing muis* or of *hang mui*, and are the first to disappear from the market. This is partly due to the fact that they ripen among the very first and partly to the fact that they are not good keepers.

64585. *RUBUS* sp. Rosaceae.

No. 166. May 25, 1925. *She p'au lak*. Found on a roadside in Lohkongtung, in rather loamy to sandy granite soil. A sturdy, very thorny bush, 4 to 6 decimeters high, with small lavender flowers and red fruits whose large drupelets separate very readily. The flavor is fair.

64586. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 172. June 3, 1925. *Siu mak* and *min mak*. A bearded variety obtained from the Canton Christian College farm, where it has been growing for several years. It is sown about the middle of November and harvested in March.

64587. *SOLANUM TUBEROSUM* L. Solanaceae. Potato.

From Paget East, Bermuda. Tubers presented by E. A. McCallan, director, Department of Agriculture. Received July 30, 1925.

Locally grown tubers.

64588. *HELIANTHUS TUBEROSUS* L. Asteraceae. Jerusalem artichoke.

From Sydney, New South Wales. Tubers purchased from Anderson & Co. Received August 11, 1925.

A locally grown white variety.

64589 to 64591. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

From Buitenzorg, Java. Seeds presented by L. Koch, chief, Plant Breeding Station. Received August 5, 1925.

64589. *Zwarte* No. 16.

64590. *Witte* No. 26.

64591. *Zwarte* No. 27.

64592. TRIFOLIUM SUBTERRANEUM L.
Fabaceae. Subterranean clover.

From Sydney, New South Wales. Seeds purchased from Foster & Sons. Received August 7, 1925.

For previous introduction and description, see S. P. I. No. 64530.

64593 and 64594.

From Teneriffe, Canary Islands. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received August, 1925. Notes by Doctor Fairchild.

64593. SEMPERVIVUM CANARIENSE L.
Crassulaceae.

July 10, 1925. Plants from the cliffs near San Juan de la Rambla, not far from Orotava. This forms an immense rosette of leaves, sometimes as much as 14 inches across, which lies perfectly flat against perpendicular walls of lava rock. When there are many they give the appearance of a lot of large green dinner plates stuck to the cliffs. From the center of these plates arise the flowering racemes, and since the dinner plates are all about to form these racemes, they swell out in the middle and become like mammas. The flower clusters are striking but not particularly beautiful, since the flowers themselves are greenish in color. These could be grown on the back-yard walls of the homes in southern California.

64594. TAMARIX GALLICA L.
Tamaricaceae. Tamarisk.

July 11, 1925. The use of the tamarisk as a windbreak is almost universal in Algeria, Morocco, and the Canary Islands. The form of tamarisk which one sees everywhere appears to be slightly different in Teneriffe from the form which I saw in Algiers. Cuttings of this were collected on the beach at Orotava. We discovered there that a curious slimy salty liquid was actually dripping off the leaves and branches in such quantities that one could not walk under them without ruining his clothes. Evidently the plant roots like the salty water and eliminate the salt through the leaves. I remember that Volkens discussed this feature of the tamarisk many years ago in his *Egyptische Arabische Wüste*.

64595. HETEROSPATHE ELATA Scheff.
Phoenicaceae. Palm.

From Manila, P. I. Seeds presented through P. J. Wester. Received August 7, 1925.

A tall, unarmed palm, with a straight, slender stem and long pinnate leaves, growing in protected situations and where the rainfall is evenly distributed. It is one of the most attractive and graceful palms that I have seen, and from my experience with it at Lamao it will make a good plant for the conservatory and possibly a good house palm. (Wester.)

For previous introduction, see S. P. I. No. 61323.

64596. RAPHANUS SATIVUS L.
Brassicaceae. Radish.

From Kagoshima, Japan. Seeds presented by Shiganari Kawagoe, Kagoshima Im-

64596—Continued.

perial College of Agriculture and Forestry, through Masao Yoshikawa, Bureau of Plant Industry. Received August 11, 1925.

A late variety of *Sakurajima daikon* (*Sakurajima* horse radish). All varieties of *Sakurajima daikon*, especially the late one, grow to giant size, often nearly 2 feet in diameter. The shape of this late variety is like a turnip, almost round, while that of the early varieties is rather long. The growth is mysteriously limited to *Sakurajima* Island, and in Kagoshima or the near-by villages, scarcely more than 2 miles from the island, we can not grow the real giant radish. The *Sakurajima daikon* is a very delicious vegetable, juicy and tender. The planting season on *Sakurajima* Island, for the late variety, is about the first of August. The seeds are sown in rows, 4 feet apart, and the distance between plants should be about 3 feet. (Yoshikawa.)

64597. BILLARDIERA LONGIFLORA Labill.
Pittosporaceae.

From South Yarra, Victoria, Australia. Seeds presented by William Laidlaw, Government botanist, National Herbarium of Victoria. Received August 11, 1925.

A twining shrub, sometimes several feet in length, with leaves varying from oval to linear in shape and from half an inch to 2 inches in length. The blue flowers are pendulous on solitary stems an inch long. This plant grows wild along watercourses in Australia and Tasmania.

For previous introduction, see S. P. I. No. 61326.

64598. CERATONIA SILIQUA L.
Caesalpiniaceae. Carob.

From La Palma, Majorca, Balearic Islands. Scions collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received September 1, 1925.

No. 188a. August 16, 1925. I found this water sprout coming up from the roots of a large tree of the *Panesca* variety which bore hermaphrodite flowers and an abundance of large thick pods of apparently good quality. This may prove to be slightly different from the typical *Panesca*. (Fairchild.)

64599 to 64601. COIX LACRYMA-JOBI MA-YUEN (Rom.) Stapf.
Poaceae. Adlay.

From Buitenzorg, Java. Seeds presented by P. J. S. Cramer, director, General Experiment Station. Received September 1, 1925.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

64599. *Djoli bras.*

64600. *Djoli brasbruin.*

64601. *Djoli Hetan.*

64602. DEGUELIA TRIFOLIATA (Lour.)
 Taub. (*Derris uliginosa* Benth.).
 Fabaceae.

From Peradeniya, Ceylon. Seeds presented by F. A. Stockdale, Director of Agriculture. Received September 1, 1925.

A stout climbing shrub, native to eastern Asia. The roots of some species of *Deguelia* are used as fish poison in parts of India and Africa, and this Indian species is introduced for possible use as an insecticide.

For previous introduction, see S. P. I. No. 46019.

64603 to 64615. CITRUS spp. Rutaceae.

From Buitenzorg, Java. Collected by H. J. Webber, College of Agriculture, Berkeley, Calif. Received August 20, 1925. Notes by Doctor Webber.

Budwood from the citrus collection at the Buitenzorg Botanical Garden.

64603. CITRUS AURANTIFOLIA (Christm.)
 Swingle. Lime.

No. 6. Mendado. Forma *amblycarpa*. Garden No. XV J. B. XI 5. A rough-skinned variety.

64604. CITRUS GRANDIS (L.) Osbeck (C. decumana Murr.).

No. 4. Sumatra. Var. *sphaerocarpa*. Garden No. III G. 86.

64605. CITRUS MEDICA SARCODACTYLIS
 (Nooten) Swingle. Fingered citron.

No. 10. The Buddha-fingered citron from P. J. S. Cramer's private garden.

64606. CITRUS sp.

No. 9. A citron or lemon type, probably a hybrid, which is known to give very peculiar seedlings.

In Java I found that the citrus fruits in the market at this time of year include various types of a red or pink-fleshed shaddock and types of Mandarin oranges, some of which are fairly large and of good quality. The following numbers are of seeds taken from especially selected fruits.

64607 to 64612. CITRUS GRANDIS (L.) Osbeck (C. decumana Murr.). Shaddock.

64607 to 64610. Pink-fleshed shaddock.

64607. No. 11. **64609.** No. 13.

64608. No. 12. **64610.** No. 14.

64611. No. 18. Deep red-fleshed variety.

64612. No. 19. Pink-fleshed variety.

64613 to 64615. CITRUS NOBILIS DELICIOSA
 (Ten.) Swingle. Mandarin orange.

64613. No. 15. **64614.** No. 16.

64615. No. 17. A spicy variety.

64616 to 64646.

From Leningrad, Russia. Seeds presented by B. L. Issatschenko, director, Botanic Garden. Received August 22 and 24, 1925.

64616. AESCHYNOMENE INDICA L. Fabaceae.

A bushy leguminous annual 1 to 3 feet high, with pale-green feathery leaves. Native to the Tropics. Procured for trial as fodder and as green manure.

For previous introduction, see S. P. I. No. 59294.

64616 to 64646—Continued.

64617 to 64624. ASTRAGALUS spp. Fabaceae.

64617. ASTRAGALUS ALPINUS L.

A perennial plant with ascending stems about 8 inches high. Native to the Alpine regions of central Europe.

64618. ASTRAGALUS ARMENIACUS Boiss.

A perennial caespitose plant, native to Armenia, with leaves about 4 inches long and small yellow flowers.

64619. ASTRAGALUS BOETICUS L.

An upright, often stout annual, with compound leaves usually composed of 9 to 15 pairs of very narrow leaflets and 6 to 15 pale-yellow flowers in a crowded raceme. Native to the Mediterranean countries.

For previous introduction, see S. P. I. No. 58693.

64620. ASTRAGALUS CICER L.

A European astragalus said to be valuable for forage. It is a perennial with prostrate or ascending stems.

64621. ASTRAGALUS ECHINUS DC.

A much-branched shrubby perennial, native to alpine regions in Asia Minor.

64622. ASTRAGALUS EXSCAPUS TRANSILVANICUS (Janka) Asch. and Graebn.

A perennial plant with very long roots and a rhizome which forms a thick mat. The stems are scarcely more than 4 inches high. Native to sunny places in the Mediterranean countries.

64623. ASTRAGALUS MACROCARPUS DC.

A perennial astragalus native to Palestine. The compound leaves consist of 12 to 15 pairs of leaflets, each about half an inch long.

64624. ASTRAGALUS MEMBRANACEOUS (Fisch.) Bunge.

A perennial plant with hairy swollen pods, native to Spain.

64625 to 64628. ELYMUS spp. Poaceae.
 Grass.

64625. ELYMUS DAURICUS Turcz.

A tall perennial ryegrass with stout erect stems, native to dry stony places in Russia and Siberia.

For previous introduction, see S. P. I. No. 36796.

64626. ELYMUS EXCELSUS Turcz.

A leafy-stemmed perennial grass with a fibrous root and narrow leaves. Native to southeastern Siberia.

64627. ELYMUS sp.

64628. ELYMUS sp.

64629. LATHYRUS FILIFORMIS BAUHINI (Genty) Beck. (L. ensifolius Gay.).
 Fabaceae.

A perennial leguminous plant, a foot or two high, with a creeping rhizome. Native to the Mediterranean region.

64630. LATHYRUS INCONSPICUUS L. Fabaceae.

An annual upright or ascending leguminous plant with very slender stems up to a foot in length. Native to the Mediterranean region.

64616 to 64646—Continued.

64631. *LOLIUM PERENNE* L. Poaceae.
Perennial rye grass.

Received as *Lolium unicolom*, which is now referred to *L. perenne*.

64632. *LOLIUM RIGIDUM* Gaud. Poaceae.
Grass.

An annual gray-green bushy grass with ascending stems 1 or 2 feet long. Native to southern and central Europe.

64633. *LOTUS HISPIDUS* Desf. Fabaceae.

A deeply rooted annual plant with usually prostrate stems, native to the Mediterranean countries.

64634. *MEDICAGO FALCATA* L. Fabaceae.
Alfalfa.

64635. *MEDICAGO SATIVA* L. Fabaceae.
Alfalfa.

64636. *MISCANTHUS SACCHARIFLORUS* (Maxim.) Hack. Poaceae.
Grass.

A stout perennial grass with long flat leaves and terminal spreading panicles. Native to southeastern Siberia.

64637. *ONOBRYCHIS CAPUT-GALLI* (L.) Lam. Fabaceae.

An annual or biennial prostrate or ascending plant with stems up to 3 feet in length. Native to dry situations in the Mediterranean region.

64638. *ORNITHOPUS PINNATUS* (Mill.) Druce (*O. ebracteatus* Brot.). Fabaceae.

An attractive annual leguminous plant about a foot and a half high, with spreading or prostrate stems. Native to the Mediterranean region.

64639. *PHASEOLUS VULGARIS* L. Fabaceae.
Common bean.

Locally grown beans.

64640. *PISUM ELATIUS* Bieb. Fabaceae.

A hardy annual, about 5 feet high, with leaves composed of one to three pairs of narrow leaflets and purple flowers. Native to woods and thickets in the alpine regions of Europe.

For previous introduction, see S. P. I. No. 58707.

64641. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae.
Soy bean.

64642. *TRICHOLAENA ROSEA* Nees. Poaceae.
Natal grass.

Received as *Tricholaena grandiflora*, which is now referred to *T. rosea*.

- 64643 to 64645. *TRIFOLIUM* spp. Fabaceae.

64643. *TRIFOLIUM MARITIMUM* Huds.
Clover.

An annual erect or decumbent branching clover from Asia Minor, where it grows in fields and along the sea coasts. The flowers are white or pale flesh color.

For previous introduction, see S. P. I. No. 59370.

64644. *TRIFOLIUM PRATENSE* L.
Red clover.

Received as *Trifolium nivale*, which is now referred to *T. pratense*. Locally grown seeds.

64616 to 64646—Continued.

64645. *TRIFOLIUM STELLATUM* L.

An annual upright clover, up to a foot high, native to the Mediterranean region.

64646. *TRIGONELLA CAERULEA* (L.) Seringe. Fabaceae.

An annual upright plant, usually about a foot high and mostly unbranched, with bright-blue flowers having the same odor as the fenugreek (*Trigonella foenum-graecum*). Native to the Mediterranean region.

64647. *GLADIOLUS* sp. Iridaceae.

From Old Umtali, Rhodesia, Africa. Seeds presented by E. H. Greeley. Received September 4, 1925.

A native species of possible value for plant breeders.

64648. *PRUNUS ARMENIACA* L. Amygdalaceae.
Mikado apricot.

From Jamaica Plain, Mass. Bud sticks presented by E. H. Wilson, Arnold Arboretum. Received September 14, 1925.

A Japanese apricot under the name of "Mikado," a form of the common apricot (*Prunus armeniaca*), has been grown in the arboretum for several years, where it makes a small tree with erect branches and, flowering freely every spring, has proved here one of the handsomest and most satisfactory plants of its class. (Wilson.)

64649. *PENTZIA INCANA* (Thunb.) Kuntze (*P. virgata* Less.). Asteraceae.

From Middleburg, Cape Province, Union of South Africa. Seeds presented by the principal, Grootfontein School of Agriculture. Received September 10, 1925.

A low-growing, spreading bush which layers naturally when the tips of its branches arch over and touch the ground. In the eastern province of Cape Colony, where the rains occur in summer but where long, severe droughts are frequent, this is one of the most valuable of all the karoo plants for fodder purposes. It is especially good for sheep and goats, which eat it down almost to the ground. (David Fairchild.)

64650. *VITIS VINIFERA* L. Vitaceae.
Grape.

From Bay Saint Louis, Miss. Cuttings presented by George E. Murrell, horticulturist, Southern Railway. Received July 6, 1925.

From the Ransecar farm, about 1½ miles from Bay Saint Louis; owned by Mr. Hoffman. This grape was planted by R. R. Ware, who formerly owned the farm, and, according to George C. Husmann, Bureau of Plant Industry, it closely resembles the Listan variety. (Murrell.)

- 64651 and 64652. *BOUGAINVILLEA* sp. Nyctaginaceae.

From Port of Spain, Trinidad, British West Indies. Presented by W. G. Freeman, director of agriculture. Received July 11, 1925.

A pink variety originally brought from Ecuador. (Freeman.)

64651 and 64652—Continued.

64651. Plants.

64652. Cuttings.

The bougainvilleas are showy climbing shrubs, native to South America, which are adapted for growing under glass in the North and out of doors in the Gulf States and California.

64653 and 64654. *GLADIOLUS* spp. Iridaceae.

From Kirstenbosch, Cape Province, Union of South Africa. Seeds presented by R. H. Compton, director, National Botanic Gardens, through H. L. Shantz, Bureau of Plant Industry. Received August 20, 1925. Notes by Professor Compton.

64653. *GLADIOLUS CALLISTUS* Bolus f.

No. 498. A relatively new species which I have not had an opportunity to look up, but which belongs to the *Gladiolus blandus* group. It is an extremely beautiful, tall, upright-growing species of a fine form and color.

64654. *GLADIOLUS RECURVUS* L.

No. 499. One of the most promising of our gladioli from the hybridizer's point of view. The flowers are blue and quite fragrant. This variety is highly regarded as an ornamental, and, because of its color and perfume, should also prove valuable for hybridization.

64655. *CRYPTOSTEGIA* MADAGASCARIENSIS Bojer. Asclepiadaceae.

From Tananarive, Madagascar. Seeds presented by the Chief, Agricultural Service. Received July 1, 1925.

A climbing shrubby vine, native to Madagascar, which is grown as an ornamental in South Africa and elsewhere. The leaves are short and leathery, and the whitish or pink flowers are 2 to 3 inches wide. Of possible value as a source of rubber.

For previous introduction, see S. P. I. No. 60442.

64656 to 64660. *DIOSCOREA* spp. Dioscoreaceae. Yam.

From Rabaul, New Guinea. Tubers presented by G. Bryce, director of agriculture. Received July 6, 1925.

A collection of native yam varieties.

64656. *Allah*.64659. *Marut*.64657. *Lama*.64660. *Taniel*.64658. *Maine*.64661 and 64662. *SOLANUM* spp. Solanaceae.

From Lima, Peru. Tubers presented by Julio Gaudron, Escuela Agricultura. Received July 8, 1925. Notes by Wilson Popenoe, Bureau of Plant Industry.

64661. *SOLANUM* sp.

Though this plant is grown at the Botanic Garden in Lima under the name of *Solanum maglia*, W. E. Safford believes it is not this species. Its tubers, which are more or less round in form and 1 or 2 inches in diameter, are of no value as food. The plant, however, is of interest to breeders for hybridizing with the true potato.

For previous introduction, see S. P. I. No. 62697.

64661 and 64662—Continued.

64662. *SOLANUM TUBEROSUM* L. Potato.

The yellow-fleshed potato is one of the most interesting varieties found in the Andean region, home of many remarkable potatoes. The tubers are rather small and have deep eyes, so that they are not as easily prepared for the table as those of some other varieties; but in point of quality they yield to none that I have tasted. The flesh is the color of American butter and has a rich, nutty flavor suggesting that of the chestnut. It seems to me the variety might be improved, so as to do away with the objectionable eyes, and that it would then be worth extensive cultivation.

For previous introduction, see S. P. I. No. 56803.

64663. *ACACIA SCORPIOIDES* (L.) W. F. Wight (*A. arabica* Willd.). Mimosaceae.

From Alexandria, Egypt. Plants presented by W. A. Lancaster, at the request of S. H. Shearer, Indianapolis, Ind. Received July 10, 1925.

According to J. H. Holland (Useful Plants of Nigeria, pt. 2, p. 288), a large proportion of the gum arabic of commerce is furnished by this tree, which is native to northern Africa and southwestern Asia. True gum arabic, however, is said to come only from another species, *Acacia senegal*. The pods and bark of *A. scorpioides* are used for tanning, and the leaves and young pods are sometimes fed to cattle. The wood is hard and durable and is used in India for making tools.

For previous introduction, see S. P. I. No. 58379.

64664. *COIX LACRYMA-JOBI* MA-YUEN (Rom.) Stapf. Poaceae. Adlay.

From Peradeniya, Ceylon. Seeds presented by F. A. Stockdale, Director of Agriculture, Peradeniya, at the request of P. J. Wester. Received July 11, 1925.

Batangas. The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to Mr. Wester it is better than upland rice for tropical agricultural regions in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

64665. *PRUNUS TOMENTOSA* Thunb. Amygdalaceae. Bush cherry.

From Rochester, N. Y. Bud sticks collected by C. C. Thomas, Bureau of Plant Industry. Received July 25, 1925.

Durant Park. The largest fruited and most prolific of any of the varieties in fruit in the park. (Thomas.)

64666. *EUCALYPTUS DELEGATENSIS* R. T. Baker. Myrtaceae.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received September 9, 1925.

A variety, commonly called "Gum-topped stringy bark," obtained at an altitude of about 3,000 feet by J. B. Milsom, near the Great Lake. (Evans.)

This tree, originally described by Hooker under the name *Eucalyptus gigantea*, is re-

ported to attain large dimensions. It is described as erect, the branches usually short and ascending, the bark thin and fibrous, and the foliage very similar to that of *E. obliqua*. For trial in the extreme southern United States and in California.

For previous introduction, see S. P. I. No. 58628.

64667. NEYRAUDIA MADAGASCARIENSIS
(Kunth) Hook. f. Poaceae. Grass.

From Tananarive, Madagascar. Seeds presented by the chief, Agricultural Service. Received July 15, 1925.

A tall, coarse, perennial grass, closely allied to the giant reed (*Arundo donax*). Although native to Madagascar, it is found in many parts of tropical Asia and Africa. The flat narrow leaves, 1 or 2 feet long, are on leafy, solid stems, 6 to 10 feet high. The shining silky erect panicles are 1 to 3 feet in length. In Madagascar the leaves are said to be used for making hats.

For previous introduction, see S. P. I. No. 39690.

64668. SALVIA COCCINEA PSEUDOCOCCINEA
(Jacq.) A. Gray. Menthaceae.

From Yucatan, Mexico. Seeds collected by Ernest L. Crandall, Bureau of Plant Industry. Received July 20, 1925.

A perennial sage with flowers the same shade of intense red as that of the cardinal flower (*Lobelia cardinalis*). The plants, which have two to five stems, vary in height from 15 to 30 inches and grow in little pockets of soil on limestone rocks in very dry sunny places. Each morning the fully opened flowers drop off before 11 o'clock. (Crandall.)

64669. PRUNUS INCISA Thunb. Amygdalaceae.

From Jamaica Plain, Mass. Seeds presented by C. S. Sargent, director, Arnold Arboretum. Received July 20, 1925.

An ornamental Japanese cherry which is described (Arnold Arboretum, Bulletin of Popular Information, vol. 8, no. 3) as a large shrub, or sometimes a small tree, about 25 feet high. The flowers, which appear in drooping clusters before the deeply cut leaves, are white or rosy, with bright-red calyxes, and the anthers are bright yellow. The petals fall early, but the calyxes, which gradually grow brighter, remain on the young fruits for some time and are quite showy.

64670 to 64672. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortún, director, Estación Experimental Agronómica. Received July 20, 1925.

Locally grown strains.

64670. Co. 205.

64672. Co. 281.

64671. D. 247.

64673. MUSA URANOSCOPOS Lour. (*M. coccinea* Andr.). Musaceae. Banana.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received July 28, 1925.

No. 151. May 19, 1925. *Wat chiu* and *shui tsui*. Obtained from a tree in an old

deserted yamen (Hok T'oi Nga Moon) on Kauilung. The plants, 4 to 5 meters high, have leaves which are longer and narrower than those of the usual cultivated bananas here. The bracts of the flowers curl, one at a time, back from the bud, exposing the brilliant-red inner surface, thus permitting the fertilization of the flowers. Unlike those of the cultivated edible banana, these bracts persist after the fruits reach maturity. The fruits are short and thick, being only 9 centimeters long, including the rather slender base by which they are attached to the stalk, and 11.5 centimeters in circumference. The skin turns a rich yellow when the fruits are ripe. The interior of the fruits is so packed with seeds that there is practically no flesh. (McClure.)

64674 to 64719. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). Fabaceae. Soy bean.

From Kagoshima, Japan. Seeds presented by K. Tamari, Kagoshima Imperial College of Agriculture and Forestry. Received July 23, 1925. Notes by Mr. Tamari.

64674 to 64683. Grown at the Prefecture Akita, in 1924, and obtained through C. Kanamoto, Yokozawamura, Akita.

64674. No. A-1. *Hanshiro Mame*. A half-white variety.

64675. No. A-2. *Mejiro*. White-eyed soy bean.

64676. No. A-3. *Goyo Mame*. A five-leaved variety.

64677. No. A-4. *Wase Akazaya*. An early variety having a reddish pod.

64678. No. A-5. *Ko Abakoku*. A small abakoku soy bean.

64679. No. A-6. *Kuro Mame*. Black variety.

64680. No. A-7. *Kuro Zaya*. Black-podded soy bean.

64681. No. A-8. *Akita*.

64682. No. A-9. *Ani*.

64683. No. A-10. *Tamazdukuri*. This variety was grown at Tamazdukuri.

64684 to 64701. Grown in Chosen during 1924 and collected by the courtesy of the director of the agricultural experiment station of Chosen, Suigen.

64684. C-1. *Suigen* No. 5.

64685. C-2. *Suigen* No. 8.

64686. C-3. *Suigen* No. 9.

64687. C-4. *Suigen* No. 10.

64688. C-5. *Ciarukon*.

64689. C-6. *Chūhoku Shiro*. A white soy bean grown at the Prefecture Chūhoku.

64690. C-7. *Tansen Tanryoku*. Light green variety grown in Tansen.

64691. C-8. *Chōzui*.

64692. C-9. *Niku Avo Cha Daizū*. A green variety with a brown skin.

64693. C-10. *Urusan*.

64694. C-11. *Himashi Daizū*. Castor soy bean.

64695. C-12. *Kōshiu Chūryū*. From Kōshiu.

64674 to 64719—Continued.

64696. No. C-13. *Awo Daizdu*. Green soy bean.

64697. No. C-14. *Kuro Daizdu*. A black variety.

64698. No. C-15. *Kuro Satō Daizdu*. A black, sugar soy bean.

64699. No. C-16. *Ryūhan Daizdu*. Dragon-colored variety.

64700. No. C-17. *Ohūnenkon*.

64701. No. C-18. *Moyashi Daizdu*. A variety used for bleaching.

64702 to 64705. Grown in Hokkaido in 1924, and obtained through the director of the agriculture experiment station at Hokkaido, Sapporo.

64702. No. H-1. *Ōyachi*.

64703. No. H-2. *Mizdukuguri*. (Diver soy bean.)

64704. No. H-3. *Turunoko*. (Crane chick soy bean.)

64705. No. H-4. *Yukikorogashi*. (Snow-ball soy bean.)

64706 to 64717. Grown during 1924 at the Prefecture Kumamoto and obtained through M. Jyo. of the prefectural authorities, Kumamoto.

64706. No. K-1. *Higo*.

64707. No. K-2. *Aoji*. A green variety.

64708. No. K-3. *Aka Wase*. An early, red variety.

64709. No. K-4. *Ki Zaya*. Yellow-podded variety.

64710. No. K-5. *Wase Kin Daizdu*. An early golden soy bean.

64711. No. K-6. *Riku U No. 3*. This variety was bred at the Riku U Agricultural Experiment Station.

64712. No. K-7. *Shiro Zaya*. A white-podded soy bean.

64713. No. K-8. *Kin Daizdu*. A golden variety.

64714. No. K-9. *Karyo Daizdu*. The improved soy bean.

64715. No. K-10. *Hachikoku*. (Eight koku soy bean; very productive.)

64716. No. K-11. *Asahi*. (The morning sun soy bean.)

64717. No. K-12. *Takiya*.

64718 and 64719. Grown during 1924 at the Prefecture Aichi and obtained through the director of the agricultural experiment station of the Prefecture Aichi, Anjyo, Mikawa.

64718. No. N-1. *Kyōto-Kuro Daizdu*. Kyōto black soy bean.

64719. No. N-2. *Ko Mame*. Small-seeded variety.

64720 to 64749. *SOJA MAX (L.) Piper (Glycine hispida Maxim.)*. Fabaceae. Soy bean.

From Aizu Wakamatsu, Japan. Seeds presented by Rev. Christopher Noss, Japan mission of the Reformed Church. Received July 23, 1925.

Locally grown strains.

64720. No. 1. 64723. No. 4.

64721. No. 2. 64724. No. 5.

64722. No. 3. 64725. No. 6.

64720 to 64749—Continued.

64726. No. 7. 64738. No. 19.

64727. No. 8. 64739. No. 20.

64728. No. 9. 64740. No. 21.

64729. No. 10. 64741. No. 22.

64730. No. 11. 64742. No. 23.

64731. No. 12. 64743. No. 24.

64732. No. 13. 64744. No. 25.

64733. No. 14. 64745. No. 26.

64734. No. 15. 64746. No. 27.

64735. No. 16. 64747. No. 28.

64736. No. 17. 64748. No. 29.

64737. No. 18. 64749. Mixed.

64750 to 64761. *SACCHARUM OFFICINARUM L. Poaceae*. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by J. R. Zell. Received July 30, 1925.

Locally grown strains.

64750. No. 1. 64756. No. 7.

64751. No. 2. 64757. No. 8.

64752. No. 3. 64758. No. 9.

64753. No. 4. 64759. No. 10.

64754. No. 5. 64760. No. 11.

64755. No. 6. 64761. No. 12.

64762. *ELAAGNUS PHILIPPENSIS* Perr. (*E. philippinensis* Wester). Elaeagnaceae.

From the Philippine Islands. Seeds presented by P. J. Wester. Received August 26, 1925.

Lingaro. Seeds sent to me from the Philippines by Mrs. R. M. McCrory. This is an attractive climbing wild shrub with small pointed leaves, silvery beneath, and smooth pink oblong edible fruits about an inch long. These fruits have subacid or sour flesh of good flavor and make excellent jelly. (Wester.)

64763. *ALANGIUM LONGIFLORUM* Merr. Cornaceae.

From Los Banos, P. I. Seeds presented by Eduardo Quisumbing, assistant professor in plant physiology, College of Agriculture. Received September 9, 1925.

A handsome deciduous tropical tree, described by Merrill (Philippine Journal of Science, vol. 7, C, no. 5) as about 30 feet high with thin oblong leaves and small axillary clusters of white flowers.

64764. *LILIUM* sp. Liliaceae. Lily.

From Ertsingientze, Manchuria. Bulbs collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received September 9, 1925.

No. 3845. July 30, 1925. This is reported to be a drooping red lily, with recurved petals, which grows on the mountain sides. (Dorsett.)

64765 to 64797.

From Manchuria. Seeds and bulbs collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received August 24, 1925. Notes by Mr. Dorsett.

64765 to 64797—Continued.

64765. *AGROPYRON CILIARE* (Trin.) Franch.
Poaceae. Grass.

No. 3697. Harbin. July 11, 1925. A tall-growing short-awned grass found in the new Russian cemetery.

64766. *AQUILEGIA OXYSEPALA* Trautv. and Mey. Ranunculaceae. Columbine.

No. 3526. June 29, 1925. An herbaceous plant, having more or less square flowers with four points; obtained in rocky situations at Jalatun and Barun.

64767. *OXYTROPIS OXYPHYLLA* (Pall.) DC. Fabaceae.

No. 3610. Hailar. July 5, 1925. Obtained from plants growing in the sand dunes.

64768. *CARAGANA PYGMAEA* (L.) DC. Fabaceae. Dwarf pea tree.

No. 3677. Chalaloerh. July 7, 1925. A small thorny shrub.

For previous introduction, see S. P. I. No. 55769.

64769. *CARAGANA* sp. Fabaceae.

No. 3702. Harbin. July 11, 1925. Obtained in the new Russian cemetery.

64770. *ERODIUM* sp. Geraniaceae.

No. 3383. Tsitsihar. June 22, 1925. From the nursery of the forester of the Chinese Eastern Railway.

64771. *FESTUCA OVINA* L. Poaceae. Sheep fescue.

No. 3599. Hilar. July 3, 1925. A rather tall-growing grass found in the sand dunes located to the north of the city. The location is very much exposed, and at this season, at least, it is very dry.

64772. *HORDEUM VIOLACEUM* Boiss. Poaceae. Grass.

No. 3589. Hilar. July 3, 1925. One of the commonest grasses we have found in the regions thus far visited.

64773. *LILIUM TENUIFOLIUM* Fisch. Liliaceae. Lily.

No. 3477. June 27, 1925. Bulbs of a low-growing lily with recurved drooping pink or red flowers, found on the granite mountain to the east of Jalatun.

64774. *LILIUM CONCOLOR BUSCHIANUM* (Lodd.) Baker. Liliaceae. Lily.

No. 3478. Jalatun. June 28, 1925. Bulbs of an upright red-flowered lily growing on the lower levels and occasionally on the sides of the hills. The petals of this lily do not recurve, and the flowers do not droop but stand erect.

64775. *MELICA GMELINI* Turcz. Poaceae. Grass.

No. 3469. Barun. June 29, 1925. Found on the mountain side in exposed rocky situations.

64776. *PAPAVR NUDICAULE* L. Papaveraceae. Poppy.

No. 3479. Jalatun. June 27, 1925. An attractive sulphur-yellow long-stemmed poppy which is abundant in this region.

64777. *PHOENIX DACTYLIFERA* L. Phoenixaceae. Date palm.

No. 3307. June 15, 1925. "Eggplant" date, received from E. M. Lamb, director,

64765 to 64797—Continued.

First Sino-Turkestan Motion Picture Expedition, and called by him Tsao erh, meaning "Tibetan jujube." It is my understanding that these fruits are grown in Tibet.

64778 to 64786. *POA* spp. Poaceae. Grass.

64778 and 64779. *POA CHAIXII* Vill.

64778. No. 3313. June 17, 1925. A rather coarse, very open-headed grass obtained from the small park near New Town, Harbin.

64779. No. 3552. Batun. July 1, 1925. A very open-headed grass with brittle stems.

64780. *POA NEMORALIS* L.

No. 3363. June 22, 1925. Obtained from the dry prairie land north of Tsitsihar. This is one of the most common grasses we have seen on the prairie.

64781. *POA PALUSTRIS* L. Fowl meadow grass.

No. 3314. June 17, 1925. Found in the small parks on the hill just outside of New Town, Harbin.

64782 to 64784. *POA PRATENSIS* L. Bluegrass.

64782. No. 3517. June 29, 1925. Plants found growing in moist gravelly soil at Barun.

64783. No. 3542. Barun. June 30, 1925. This is a single-stemmed, rather open-headed grass, found in a river-bottom area.

64784. No. 3664. Hailar. July 6, 1925. Obtained in the prairie, Argon river bottom.

64785 and 64786. *POA SPHONDYLODES* Trin.

64785. No. 3371. Tsitsihar. June 21, 1925. From a hot dry field near the railroad station.

64786. No. 3625. Hailar. July 5, 1925.

64787. *POPULUS SUAVEOLENS* Fisch. Salicaceae. Poplar.

No. 3480. Jalatun. June 27, 1925. From trees growing in the parks.

64788 and 64789. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

64788. No. 3704. Harbin. July 12, 1925. A medium-sized, almost round, deep-yellow apricot with golden-yellow flesh which, though not juicy, is of very good quality. This looks as though it may be a plumcot; the seeds appear to be somewhat different from the ordinary apricot.

64789. No. 3710. Harbin. July 20, 1925. This variety, called "Large red apricot," was shipped in from Tientsin. It is about the hand-somest apricot we have seen, being bright golden yellow with a very attractive pink blush and yellow flesh. The seed is large and quite flat. The fruit is a freestone, not juicy, and, according to our standard, the quality is low, but this may be due to the fruit having been picked quite green.

64765 to 64797—Continued.

64790. *PRUNUS AVIUM* L. Amygdalaceae.
Sweet cherry.

No. 3338. Harbin. June 18, 1925. A creamy white cherry, the fruits of which vary considerably in size, purchased in the market.

64791. *PRUNUS PADUS* L. Amygdalaceae.
European bird cherry.

No. 3607. Hailar. July 5, 1925. This cherry was procured in the sand dunes. It may prove to be of interest as a shade and ornamental tree for the Great Plains region.

64792 and 64793. *PUCCINELLIA DISTANS* (L.) Parl. Poaceae. Grass.

64792. No. 3315. Harbin. June 17, 1925. We found this grass being eaten by cattle, but that may have been because they had little else to eat.

64793. No. 3634. July 5, 1925. A grass of medium height collected at Hailar.

64794. *RIBES DIACANTHA* Pall. Grossulariaceae. Currant.

No. 3600. July 3, 1925. Found wild in the sand dunes to the north of Hailar.

64795. *SAMBUCUS* sp. Caprifoliaceae. Elder.

No. 3703. Harbin. July 11, 1925. A dark-brown seeded elderberry growing in the new Russian cemetery.

64796. *SPIRAEA* sp. Rosaceae. Spirea.

No. 3495. Jalatun. June 28, 1925. Found on the west side of the Granite Mountain across from the railway station. The plants showed evidence of having flowered very freely, and they did not show any winterkilling.

64797. *LONICERA* sp. Caprifoliaceae.

No. 3685. Bukedoo. July 8, 1925. A variety having dark-purple or black berries which are very acid, mucilaginous, and of good flavor.

64798 to 64805.

From Blackwood, South Australia. Seeds presented by Edwin Ashby, "Wittunga." Received September 3, 1925. Notes taken from Bentham. *Flora Australiensis*.

64798. *ACACIA SCAPELLIFORMIS* Meisn. Mimosaceae.

A tall shrub from Western Australia, with the phyllodia (leaflike stems) triangular lanceolate and about an inch long. The pods are very long and narrow, twisting readily.

64799. *ACACIA SIGNATA* F. Muell. Mimosaceae.

A straggling shrub, 6 to 8 feet high, with narrowly linear phyllodia about 4 inches long and short flat leathery pods. Native to Western Australia.

64800. *ISOPOGON ASPER* R. Br. Proteaceae.

Usually a low shrub, with erect branches 1 or 2 feet high, and crowded pinnate leaves with rigid leaflets, the entire leaf generally not more than an inch long. The red flowers are in small dense cones which are either terminal or axillary. Native to Western Australia.

64798 to 64805—Continued.

64801. *LEPTOSPERMUM ROEI* Benth. Myrtaceae.

A slender-branched shrub, indigenous to Western Australia, covered with silky pubescence, and with flat oblong leaves 3 to 6 inches long. The rather large white flowers are either solitary or in pairs.

64802 to 64804. *MELALEUCA* spp. Myrtaceae.

64802. *MELALEUCA CORDATA* Benth.

A rigid shrub with numerous small round or oval spreading leaves and dense globular heads of rather small red flowers. Native to Western Australia.

64803. *MELALEUCA HOLOSERICA* Schauer.

A bushy shrub, from Western Australia, generally 2 to 3 feet high, with the leaves and branches covered with white pubescence. The leaves are linear and half an inch long. The pink flowers are in dense terminal heads.

64804. *MELALEUCA LONGICOMA* Benth.

The large rich-red flowers of this Australian shrub are in small cylindrical spikes at the bases of the young leafy branches. The oblong leaves are less than 2 inches long.

64805. *TEMPTONIA RETCSA* (Vent.) R. Br. Fabaceae.

A tall Australian leguminous shrub with small leathery leaves and large bright-red flowers, more than an inch long, either solitary or in few-flowered clusters.

64806 and 64807.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received September 8, 1925.

64806. *ACACIA VERNICIFLUA* A. Cunn. Mimosaceae.

According to Curtis's Botanical Magazine (pl. 3266), this is a slender much-branched shrub with leathery, very narrow phyllodia [leaflike stems] about 2 inches in length and deep-yellow flowers in small heads which are generally in pairs. It is native to the barren hills around Bathurst, New South Wales.

For previous introduction, see S. P. I. No. 56869.

64807. *CANDOLLEA GRAMINIFOLIA* (Swartz) F. Muell. (*Styidium graminifolium* Swartz). Candolleaceae.

An ornamental Australian plant which, according to Bentham (*Flora Australiensis*, vol. 4, p. 10), has stiff grasslike leaves, sometimes 9 inches long and always growing in a tuft from the end of a very short stem, and scapes 6 to 18 inches long bearing a simple raceme of pink flowers.

For previous introduction, see S. P. I. No. 56563.

64808 to 64810.

From Dehra Dun, United Provinces, India. Seeds presented by R. N. Parker, forest botanist, Forest Research Institute and College. Received September 14, 1925. Notes taken from Munro's Monograph of the Bambusaceae.

64808 to 64810—Continued.

64808. *CEPHALOSTACHYUM PERGRACILE*
 Munro. Poaceae. **Bamboo.**

A beautiful arborescent bamboo, cespitose in habit, with erect stems 40 feet in height and sometimes 10 inches in circumference. The narrowly lanceolate leaves are usually about 10 inches long and an inch wide. The flowering panicles are sometimes 18 inches long. One of the chief bamboos of Burma.

For previous introduction, see S. P. I. No. 40887.

64809. *DENDROCALAMUS HAMILTONII* Nees
 and Arn. Poaceae. **Bamboo.**

The common bamboo of the eastern Himalayas, where it grows to a height of from 40 to 60 feet, with horizontal branches and stems 4 to 7 inches in diameter. The foliage is very variable, the broadly lanceolate leaves being 4 to 16 inches long and up to 5 inches wide. The plant is said to flower every year, and the young shoots are eaten when boiled.

For previous introduction, see S. P. I. No. 53909.

64810. *DENDROCALAMUS MEMBRANACEUS*
 Munro. Poaceae. **Bamboo.**

A bamboo native to eastern India, probably arborescent, with comparatively small leaves about 4 inches long and one-tenth as wide.

64811. *OMPHALEA OLEIFERA* Hemsl.
 Euphorbiaceae.

From Moran, Amatitlan, Guatemala. Seeds presented by J. G. Salas, director general de agricultura, City of Guatemala, through P. C. Standley, United States National Museum. Received September 14, 1925.

For previous introduction and description, see S. P. I. No. 64557.

64812 to 64842.

From Avondale, Auckland, New Zealand. Plants presented by H. R. Wright. Received September 19, 1925. Notes by Mr. Wright.

64812 to 64814. *AMYGDALUS PERSICA* L.
 (*Prunus persica* Stokes). Amygdalaceae. **Peach.**

64812. *Allen's Late.*

64813. *Golden Queen.* A yellow-fleshed clingstone, claimed to be one of the best canning sorts. The tree is compact in habit and a heavy cropper; fruits of medium size.

64814. *Lee's Salway.* The best of the Salway type; a very fine peach.

64815 and 64816. *AMYGDALUS PERSICA*
NECTARINA Ait. Amygdalaceae. **Nectarine.**

64815. *Early Rivers.* Fruits very large; skin light yellow with crimson cheek; flesh tender, juicy, sweet, with rich flavor; season very early.

64816. *Zealandia.* One of the largest of all nectarines.

64817 and 64818. *CYDONIA OBLONGA* Mill.
 Malaceae. **Quince.**

64817. *Manning Seedling.* A super-quince.

64812 to 64842—Continued.

64818. *Smyrna.* Tree strong growing and prolific, bearing often in second year from budding. Fruits very large; flesh tender when cooked, with a delicious flavor.

64819 to 64821. *DIOSPYROS KAKI* L. f.
 Diospyraceae. **Kaki.**

64819. *Charming.* Not yet tested for fruit; autumn foliage very fine.

64820. *Hazelwood.*

64821. *Wright's Poltrialot.*

64822 to 64825. *ERIOBOTRYA JAPONICA*
 (Thunb.) Lindl. Malaceae. **Loquat.**

64822. *Hunter.* An Australian variety.

64823. *Myer's Best.* A New Zealand variety.

64824. *Smith.* An Australian variety.

64825. *Success.* A New Zealand variety.

64826. *FICUS CARICA* L. Moraceae. **Fig.**

Mrs. Williams. Of unknown origin; given to Mrs. Williams, of Auckland, by an old sea captain. The fruits are large, brown, often weighing 12 ounces, of excellent flavor. The tree is strong and prolific.

64827. *MALUS PUMILA* Mill. Malaceae.
Paradise apple.

To be tested as a dwarf stock.

For previous introduction, see S. P. I. No. 54386.

64828 to 64832. *MALUS SYLVESTRIS* Mill.
 Malaceae. **Apple.**

64828. *Aromatic.*

64829. *Cox's Early.*

64830. *Crisp's Russet.* Fruit large, conical, and regular; flesh crisp, firm, and juicy; of first-class quality. Season late.

64831. *Granny Smith.*

64832. *Sturmer Pippin.* Fruit medium sized, roundish oblate; skin yellow, almost covered with brownish red; flesh firm, crisp, very rich; grown largely in Tasmania for export.

64833. *MALUS* sp. Malaceae. **Crab apple.**

Gorgeous. The best red crab I have ever seen; up to an inch in diameter, and a real marvel for cropping. A Japanese seedling.

64834. *MALUS* sp. Malaceae. **Crab apple.**

Golden beauty. A yellow crab worked on *Prunus prunifolia*, the only stock for it. A Japanese seedling.

64835 to 64838. *PRUNUS ARMENIACA* L.
 Amygdalaceae. **Apricot.**

64835. *Bolton.*

64836. *Cattles Early.*

64837. *Cattles Red.*

64838. *Trevatt.*

64839. *PRUNUS* sp. Amygdalaceae. **Plum.**
Raglan.

64840. *PRUNUS* sp. Amygdalaceae. **Plum.**
Blileana.

64812 to 64842—Continued.

64841. *PRUNUS* sp. Amygdalaceae. Plum.*Early Gem.* A very early-maturing cherry plum raised in Australia.64842. *PRUNUS* sp. Amygdalaceae. Plum.*Jenkin's Seedling.*64843 and 64844. *PINUS* spp. Pinaceae.
Pine.

From Zernez, Switzerland. Seeds presented by Mr. Bessole, of Veuve Roner & Co., at the request of Augustine Henry, College of Science for Ireland, Dublin. Received September 11, 1925.

64843. *PINUS MONTANA PUMILIO* (Haenke) Willk.

A handsome hardy low shrubby pine with hanging branches densely clothed with bright-green foliage. Before maturity the cone is usually violet-purple, becoming yellowish or dark brown when fully ripe. This form is native to the mountains of central Europe.

For previous introduction, see S. P. I. No. 59697.

64844. *PINUS MONTANA UNCINATA* Willk.

A variety of *Pinus montana* which becomes 60 to 80 feet high, with bluntly pyramidal cones. It is found in France and Spain.

64845 to 64854. *CITRUS* spp. Rutaceae.

From Avondale, Auckland, New Zealand. Plants presented by H. R. Wright. Received September 19, 1925. Notes by Mr. Wright.

64845 to 64851. *CITRUS NOBILIS DELICIOSA* (Ten.) Swingle. Mandarin orange.64845. *Beauty of Glen Retreat.* I have seen these more than 8 inches in diameter.64846. *Early Imperial.* The earliest mandarin to ripen here.64847. *Early Shipping.* An orange-mandarin hybrid; very early.64848. *Ellendale Beauty.*64849. *Jacob Special.*64850. *Navel orange.*64851. *Thorny.*64852 to 64854. *CITRUS SINENSIS* (L.) Osbeck. Sweet orange.64852 and 64853. *Best's Seedless*, a selected strain; quality excellent.

64852. On rough-lemon stock.

64853. On sour-orange stock.

64854. *Groverly Navel.* A prolific variety.

64855 to 64868.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received September 8, 1925. Notes by Mr. Dorsett.

64855. *FESTUCA RUBRA* L. Poaceae.

Red fescue grass.

No. 3742. Hingan. July 22, 1925. A tall grass with slender stems and panicles and fine leaves. From plants growing about halfway up the mountain.

64855 to 64868—Continued.

64856. *FRAGARIA* sp. Rosaceae.

Strawberry.

No. 3753. Hingan. July 22, 1925. Fruits purchased from a Chinese who gathered them on the hills about here.

64857. *MALUS* sp. Malaceae. Apple.

No. 3830. Harbin. July 25, 1925. Green and very delicate pink-skinned fruits, of irregular size, with mealy white flesh of a sweet flavor. We think this the best-flavored Chinese apple we have tasted.

64858. *POA NEMORALIS* L. Poaceae.

Grass.

No. 3753a. Hingan. July 22, 1925.

64859. *RIBES* sp. Grossulariaceae.

Currant.

No. 3729. July 22, 1925. Seeds of a black currant obtained from a Chinese who collected them near Bukedoo.

64860. *RIBES* sp. Grossulariaceae.

Currant.

No. 3800. Hingan. July 23, 1925. Seeds of a black currant purchased from a Chinese at the railway station.

64861. *RIBES* sp. Grossulariaceae.

Currant.

No. 3801. July 23, 1925. Seeds obtained from a Chinese, who collected the fruits at Hingan.

64862. *RUBUS* sp. Rosaceae. Raspberry.

No. 3803. Hingan. July 23, 1925. Found on the old railway grade on the mountain.

64863. *RUBUS* sp. Rosaceae. Raspberry.

No. 3831. Harbin. July 25, 1925. A large-fruited red-capped raspberry purchased in the market, where it had been shipped in from Yimlenpo in the mountains southeast of Harbin.

64864. *RUBUS* sp. Rosaceae. Raspberry.

No. 3832. July 25, 1925. A light creamy yellow raspberry purchased in the market, where it had been shipped in from Yimlenpo in the mountains southeast of Harbin. This is the best raspberry we have seen. It is of good size and quality and of very good appearance.

64865. *SAMBUCUS RACEMOSA* L. Caprifoliaceae.

Red elder.

No. 3792. Hingan. July 23, 1925. An attractive ornamental, about 12 feet in height, found on the mountain side. It produces clusters of bright-red berries.

64866. *SPIRAEA MEDIA* Schmidt. Rosaceae.

Spirea.

No. 3741. Hingan. July 22, 1925. Plants 12 to 18 inches high, growing on the top of the mountain to the south of the railroad station. The flowers are white.

64867. *VACCINIUM VITIS-IDAEA* L. Vacciniaceae.

No. 3745. Hingan. July 23, 1925.

64868. *VACCINIUM* sp. Vacciniaceae.

No. 3802. Hingan. July 23, 1925. Fruits mostly round and deep purple with considerable bloom.

64869 to 64887.

From Harbin, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received September 16, 1925. Notes by Mr. Dorsett.

64869 and 64870. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

64869. No. 3835. July 27, 1925. "Three good friends." A light-green thin-skinned watermelon, of fair quality, with red flesh and black seeds, shipped in from Tashihyngkou.

64870. No. 3917. August 8, 1925. A small green or maybe striped watermelon from Hailar, where it is said the best melons are grown.

64871 to 64875. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

64871. No. 3834. July 27, 1925. "Chinese striped melon." A green and yellow melon with a pleasant aroma. The white flesh is of fair quality.

64872. No. 3857. August 4, 1925. "White melon." A small white melon with faint reddish brown stripes and white flesh which is crisp and watery.

64873. No. 3858. August 4, 1925. A small green and yellow striped melon with green, rather firm, thin sweet watery flesh of only fair quality. This and the other small melon, No. 3857 [S. P. I. No. 64872], may be short-season varieties.

64874. No. 3874. August 4, 1925. A small light-green melon purchased in the market at Pristan. The thin crisp green flesh is watery and sweet and of poor quality. A short-season variety.

64875. No. 3861. August 4, 1925. The Russian melon with yellowish green skin and rather melting sweetish yellow flesh.

64876. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Poaceae.

Six-rowed barley.

No. 3878. August 5, 1925. "Black barley" obtained from the test garden of the Manchurian Agricultural Society, Harbin.

64877 and 64878. *HORDEUM VULGARE PALIDUM* Seringe. Poaceae.

Six-rowed barley.

August 5, 1925. Obtained from the test garden of the Manchurian Agricultural Society, Harbin.

64877. No. 3879. A local variety of barley, No. 4 in the garden series.

64878. No. 3880. A local variety of barley, No. 6 in the garden series.

64879. *PRINSEPIA SINENSIS* Oliver. Amygdalaceae.

No. 3847. Ertsingientzi. July 30, 1925. A "thorn cherry." The fruits, which grow abundantly here, are edible but not especially good. They are rather large and vary considerably in size.

64880 to 64886. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

64880. No. 3842. Ertsingientzi. July 30, 1925. A wild apricot found on the mountain side. The seeds vary considerably in size and general appearance.

64869 to 64887—Continued.

64881 to 64883. Obtained through the superintendent of the botanical garden of the Manchurian Agricultural Society.

64881. No. 3910. August 8, 1925. A large-fruited variety.

64882. No. 3911. August 8, 1925. A very dark reddish variety with relatively small seeds, from tree No. 17.

64883. No. 3912. August 8, 1925. A yellow variety from tree No. 20.

64884. No. 3914. August 5, 1925. Presented by B. W. Skvortzow; selected from the best types growing here.

64885. No. 3915. August 8, 1925. Presented by B. W. Skvortzow; selected from a private garden.

64886. No. 3916. August 8, 1925. Presented by B. W. Skvortzow; a large-fruited variety.

64887. *RUBUS CRATAEGIFOLIUS* Bunge. Rosaceae. Siberian raspberry.

No. 3841. Ertsingientzi. July 30, 1925. Obtained from wild plants growing on the mountains. The fruits are red and for a wild variety large, but of poor quality.

64888. *ALLIUM NIGRUM* L. Liliaceae.

From Morocco. Bulbs collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 29, 1925. Numbered September, 1925.

Collected near Ouezzan; of possible value for borders. (Fairchild.)

A tall species, about 3 feet in height, native to southern Europe. The attractive pale-violet or whitish flowers are produced in summer.

For previous introduction, see S. P. I. No. 58878.

64889 to 64892. *GOSSYPIUM* spp. Malvaceae. Cotton.

From Bangalore, India. Seeds presented by V. N. Ranganatha Rao, assistant botanist, Department of Agriculture. Received September 11, 1925.

Locally grown strains.

64889. *GOSSYPIUM ARBOREUM* L.

This cotton is commonly grown in Mysore. (Rao.)

For previous introduction, see S. P. I. No. 52384.

64890 and 64891. *GOSSYPIUM HERBACEUM* L. Variety *melanospermum*. A black-seeded variety.

64890. No. 1. 64891. No. 2.

64892. *GOSSYPIUM OBTUSIFOLIUM* Roxb.

One of our indigenous cottons. (Rao.)

For previous introduction, see S. P. I. No. 45326.

64893 to 64896. *CITRUS* spp. Rutaceae.

From Avondale, Auckland, New Zealand. Plants presented by H. R. Wright. Received September 30, 1925. Notes by Mr. Wright.

64893 to 64896—Continued.

64893. CITRUS SINENSIS (L.) Osbeck.
Sweet orange.

Best's Seedless orange; on rough-lemon stock. A selected strain.

64894. CITRUS sp.

Byfieldon; on rough-lemon stock.

64895. CITRUS sp.

Muscio Seedling; on mandarin stock.

64896. CITRUS sp.

Pride of Ellendale; on mandarin stock.

64897 to 64904. GLADIOLUS spp. Iridaceae.

From Pretoria, Transvaal, Union of South Africa. Bulbs presented by I. B. Pole Evans, Chief, Division of Botany. Received August 12, 1925.

These gladioli, lifted from my own garden, have been collected on various occasions in different parts of the country. (Pole Evans.)

64897. GLADIOLUS sp.

No. 2.

64898. GLADIOLUS sp.

No. 12.

64899. GLADIOLUS sp.

No. 14.

64900. GLADIOLUS sp.

No. 23.

64901. GLADIOLUS sp.

No. 24.

64902. GLADIOLUS sp.

No. 26.

64903. GLADIOLUS sp.

No. 50.

64904. GLADIOLUS sp.

No. 255.

64905 and 64906. AVERRHOA spp. Oxalidaceae.

From Manila, P. I. Plants presented by S. Youngberg, acting director, Bureau of Agriculture. Received August 24, 1925.

According to P. J. Wester, formerly of the Bureau of Science, Manila, the following are superior varieties of the bilimbi and carambola. They are introduced for testing in the warmest parts of the United States.

64905. AVERRHOA BILIMBI L. Bilimbi.

Camia c 5135. The bilimbi, a tree 20 to 60 feet high, is extensively cultivated in parts of South America and the West Indies for the sake of its greenish yellow, cucumber-shaped, acid fruits, which are pickled or used as a relish with meat. It is tropical in its requirements.

64906. AVERRHOA CARAMBOLA L. Carambola.

Carambola c 5134. The carambola is similar to the bilimbi, but the yellow or golden-brown fruits are somewhat larger and less acid. The tree is smaller, varying in height from 15 to 30 feet, and is grown occasionally in the warmest parts of Florida.

64907 to 65000.

From the Mediterranean region. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received September, 1925. Notes by Doctor Fairchild.

64907. ARGANIA SPINOSA (L.) Skeels (A. *sideoxyylon* Roem. and Schult.). Sapotaceae.

Collected in the Sous Valley, near Agadir, Morocco, June, 1925. The argan tree, one of the most drought-resistant trees known, covers thousands of acres of the rockiest, driest soil in all Morocco and furnishes the only green foliage for goats during the terrifically dry summers. This tree is related to the saponilla, being of the Sapotaceae, but with fruits which, when raw, are extremely acid; they are eaten by cattle, sheep, and goats. The seeds contain a strongly flavored oil which, after being heated to drive off the odor, is excellent to use for frying and is preferred by some to olive oil.

64908 and 64909. ASPHODELUS FISTULOSUS L. Liliaceae.

A small stemless annual up to 20 inches in height with a dense rosette of very narrow leaves about a foot long and racemes of small, pinkish, lilylike flowers. Native to the Mediterranean countries.

64908. No. 16. Found near Agadir, on the road to Mogador, June 8, 1925.

64909. No. 48. Found near Marrakesh, on the road to Mogador, May 17, 1925.

64910. ASPRIS sp. Poaceae. Grass.

No. 88. Near Rabat, Morocco. June 17, 1925. A small beautiful grass with delicate panicles of very ornamental flowers.

64911 and 64912. BISERRULA PELECINUS L. Fabaceae.

An annual leguminous shrub, prostrate or ascending in habit, with numerous slender stems up to a foot long, unequally pinnate leaves, and globular clusters of light-yellow flowers. Native to waste places in the Mediterranean countries.

64911. No. 90. Near Rabat, on the road to Casa Blanca, May 8, 1925.

64912. No. 110. From the pasture land near Algeciras, Spain, June 27, 1925.

64913. BOCCONIA FRUTESCENS L. Papaveraceae.

No. 116. From the Santa Brigida Hotel gardens, Las Palmas, Grand Canary, Canary Islands, July 23, 1925. A large showy shrub 10 feet in height, with very large attractive leaves which are deeply lobed and pale beneath. The yellow flowers are borne in large pendent panicles followed by very interesting fruits with brilliant-red arils.

For previous introduction, see S. P. I. No. 33102.

64914. BROMUS sp. Poaceae. Grass.

No. 46. Near Marrakesh, Morocco, May 17, 1925. A dry-land grass growing on baked clay soil in a wheat field.

64915. CAESALPINIA PECTINATA Cav. (C. *tinctoria* Domb.). Caesalpinaceae.

No. 119. From the garden of Raphael Cabrera, Yaiza, Lanzarote, Canary Islands.

A tall upright spiny shrub or small tree, often planted for hedges in Peru.

64907 to 65000—Continued.

The largest trees attain a height of 25 to 30 feet, with trunks 6 to 8 inches in diameter. The foliage is deep green, with the leaflets smooth and polished on the upper surface. The greenish yellow flowers, in cylindrical open spikes, are not very conspicuous, but the pods are produced in large clusters, and the exposed surfaces show bright scarlet for a long time before maturing. This tree might have value as a hedge plant or windbreak in the drier, warmer parts of the Southwestern States. (O. F. Cook, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 41323.

64916. *CANARINA CANARIENSIS* (L.) Kuntze (*C. campanulata* L.). Campanulaceae.

No. 111. Presented by Juan Bolinaga, Directeur du Jardin de Acclimatation, Orotava, Teneriffe, Canary Islands, July 8, 1925.

According to Doctor Fairchild's note, under S. P. I. No. 9664, this is a pretty creeper, native to the Canary Islands, with luxuriant light-green foliage and bell-shaped orange-red flowers which are very showy. It requires much moisture and grows naturally in shaded valleys of the Canary Islands.

64917. *COTYLEDON UMBILICUS* L. Crasulaceae.

No. 175. Tubers from an Arab cemetery near Amismiz, south of Marrakesh, in the Great Atlas Mountains of Morocco, May 29, 1925. A drought-resistant plant grown on the tile roofs of houses in Morocco, giving them a look of age.

A perennial fleshy plant up to a foot high with succulent orbicular leaves and pendulous racemes of yellowish green flowers. Native to western Europe.

64918. *DATURA* sp. Solanaceae.

No. 120. From the garden of Señor Machado, Icod, Teneriffe, Canary Islands, July 8, 1925. A variety having pure white trumpet-shaped flowers.

64919. *EBENUS PINNATA* Ait. Fabaceae.

No. 15. Near Agadir, on the road to Mogador, Morocco, June 8, 1925. A beautiful legume with lovely heads of pink flowers on long peduncles, and gray-green foliage, which forms clumps on dry roadsides.

64920. *ECHIU FASTUOSUM* Salisb. Boraginaceae.

No. 114. From the La Paz estate, Orotava, Teneriffe, Canary Islands, July 10, 1925. A much-branched shrub 8 feet high with gray-green foliage and spikes of sky-blue flowers streaked with white.

For previous introduction, see S. P. I. No. 35672.

64921. *ECHIU SIMPLEX* DC. Boraginaceae.

No. 103. From the La Paz estate, Orotava, Teneriffe, Canary Islands, July 10, 1925. "Pride of Teneriffe." An amazing plant which produces an enormous spike of white flowers, 10 feet high, from a basal rosette of leaves.

64922. *FUCHSIA SPECIOSA* Hort. Onograceae. Fuchsia.

No. 127. These seeds were obtained from Juan Bolinaga, Directeur du Jardin

64907 to 65000—Continued.

de Acclimatation, Orotava, Teneriffe, Canary Islands, and came from the Hijuera or branch botanical garden at Orotava, July 8, 1925. The seeds of this form, which are produced in great abundance, are exported from Teneriffe to Europe, where strains of peculiarly vigorous plants are produced from them.

64923. *GENISTA MONOSPERMA* (L.) Lam. Fabaceae.

No. 150. From the old Perez garden, now the Hotel Victoria, Orotava, Teneriffe, Canary Islands.

An ornamental leguminous shrub, native to Spain, about 10 feet high with slender grayish branches and small, very narrow leaves. The fragrant white flowers are in short lateral racemes.

For previous introduction, see S. P. I. No. 51145.

64924 to 64926. *GENISTA MONOSPERMA* (L.) Lam. Fabaceae.

A remarkable leguminous shrub with white fragrant flowers. This variety is used as a sand binder on the dunes near Mogador, Morocco.

64924. No. 37. From bushes near Mogador, June 2, 1925.

64925. No. 37a. Presented by Louis Beauchamp, chef des eaux et forêts, Mogador, June 4, 1925.

64926. Growing beside the road to Boulhout near its junction with the Rabat-Casa Blanca highway, Morocco, May 8, 1925.

64927. *GENISTA SPHAEROCARPA* Lam. Fabaceae.

No. 4. Demnat, Morocco, May 31, 1925. A charming drooping desert shrub covered with delicate brilliant yellow flowers somewhat resembling small orchids.

For previous introduction, see S. P. I. No. 63977.

64928. *GYMNOSPORIA CASSINOIDES* (L'Her.) Masf. Celastraceae.

No. 132. Presented by Juan Bolinaga, Directeur du Jardin de Acclimatation, Orotava, Teneriffe, Canary Islands, July, 1925.

A spiny shrub of rigid habit with small leathery leaves and inconspicuous whitish flowers; of possible value for hedges in the Southern States. Native to Madeira.

64929. *HABENARIA* sp. Orchidaceae.

No. 123. A terrestrial orchid growing on rocky dry places, near San Andres, Palma, Canary Islands, July 18, 1925.

64930. *HEDYSARUM CORONARIUM* L. Fabaceae.

No. 97. Amismiz, Morocco, June, 1925.

A perennial or biennial European plant, 2 to 4 feet high, with odd-pinnate foliage and axillary racemes of deep-red fragrant flowers.

64931. *HEDYSARUM SPINOSISSIMUM* L. Fabaceae.

No. 17. Found in the dry soil along a small "oued" or stream near Marrakesh on the road to Asni, May 28, 1925.

A low-growing annual plant with numerous stems sometimes over a foot

64907 to 65000—Continued.

long. The lower leaves are in a basal rosette. The pink or purplish flowers are in short racemes. Native to dry places in the Mediterranean countries.

64932. *HIPPOCREPIS SCABRA* DC. Fabaceae.

No. 8. Near Amismiz, Morocco, May 19, 1925.

A herbaceous perennial leguminous plant, with axillary nodding yellow flowers, native to the western Mediterranean region. The leaves are unequally pin-nate.

64933. *IRIS* sp. Iridaceae.

No. 10. Found on the roadside between Casa Blanca and Fedhala, Morocco, May 10, 1925.

64934. *JASMINUM ODORATISSIMUM* L. Oleaceae.

No. 142. From the park at Icod, Tenerife, Canary Islands, July, 1925. A beautiful yellow flowering variety, native to Tenerife, which forms a large and attractive shrub.

For previous introduction, see S. P. I. No. 43804.

64935. *LAVATERA CRETICA* L. Malvaceae.

No. 135. A small plant with narrow deep-pink striped petals growing as a weed near Ronda, on the road to Grazalema, Spain, July 1, 1925.

64936. *LENTILLA LENS* (L.) W. F. Wight (*Lens esculenta* Moench.). Fabaceae. Lentil.

No. 147. This native variety of lentil was presented by Julio Cutillas, of Santa Cruz, Palma, Canary Islands, July 18, 1925.

64937. *LEUCOJUM TRICHOPHYLLUM* Schousb. Amaryllidaceae.

No. 35. Collected on the road between Casa Blanca and Fedhala, Morocco, May 10, 1925.

This graceful bulbous plant, 2 feet high, with its white hanging flowers, three or four on each stem, gives a delicate touch to the border. (Note under S. P. I. No. 64087 by Doctor Fairchild.)

64938. *LIMONIUM* sp. Plumbaginaceae.

No. 14. A large-growing species found near Agadir en route to Mogador, June 8, 1925.

64939. *LIMONIUM* sp. Plumbaginaceae.

No. 87. Collected in the Forest of Mamora, near Rabat, Morocco, June 14, 1925. A tall delicate species with a single stem from the rosette of leaves. The flowers are pale bluish white.

64940. *LOTUS BERTHOLETHI* Masf. Fabaceae.

No. 149. Obtained from Juan Bolinaga, Directeur du Jardin de Acclimatation, Orotava, Tenerife, Canary Islands, July 9, 1925. "Pigeon's Beak." This ornamental is used in hanging baskets, and the gray-green foliage sets off the attractive scarlet flowers.

64941. *LOTUS CYTISOIDES* L. Fabaceae.

No. 148. Collected in the cork-oak forest near Ronda, Spain, July 1, 1925.

64907 to 65000—Continued.

A perennial prostrate or ascending herbaceous plant, native to the Mediterranean countries. The stems are up to a foot and a half long, and the flowers are orange-yellow.

For previous introduction, see S. P. I. No. 51860.

64942. *LUPINUS TERMIS* Forsk. Fabaceae. Lupine.

No. 144. Barranco de la Galga, Palma, Canary Islands, July 20, 1925. The "chocho" of the Canary Islands is an unusually vigorous tall-growing species which is grown to enrich the soil on the terraces of the barrancos of Palma and the other islands. It is fed to stock after being soaked in cold water for 24 hours.

For previous introduction, see S. P. I. No. 52172.

64943. *MANDEVILLA SUAVEOLENS* Lindl. Apocynaceae.

No. 121. Presented by Juan Bolinaga, Directeur du Jardin de Acclimatation, Orotava, Tenerife, Canary Islands, July 8, 1925. A superb fragrant white-flowered climber which can be grown in the tops of high trees and on pergolas. The flowers are 2 inches long and resemble those of the jasmine.

For previous introduction, see S. P. I. No. 33984.

64944. *MATTHIOLA PARVIFLORA* (Schousb.) R. Br. Brassicaceae.

No. 101. From the road between Marrakesh and Mogador, June, 1925. A desert relative of the common stock (*Matthiola bicornis*) which may have value for breeding purposes.

A purple-flowered annual plant about 6 inches high, which blooms in July.

64945 to 64952. *MEDICAGO* spp. Fabaceae.

64945 to 64947. *MEDICAGO LACINIATA* (L.) Mill.

An annual medick with upright or ascending habit, about 6 inches high, native to the Mediterranean countries.

64945. No. 43. From the road between Casa Blanca and Marrakesh, May 13, 1925.

64946. No. 82. From the cultivated fields in the Barranco de las Augustias, near the caldera or old crater above the town of Los Llanos, Palma, Canary Islands, July 16, 1925.

64947. From the Barranco de las Augustias, July 16, 1925.

64948 to 64951. *MEDICAGO LITTORALIS* Rhode.

An annual leguminous plant, usually prostrate in habit, with stems up to a foot and a half long, branched from the base. Native to sandy places in the Mediterranean region.

64948. No. 1. Near the Pont des Espagnols, on the road between Casa Blanca and Fedhala, May 10, 1925.

64949. No. 36. Near Marabout, above Sale, Morocco, May 5, 1925. Growing on shell sand near cliffs swept by salt spray.

64907 to 65000—Continued.

64950. No. 62. A nearly spineless form from the road between Fedhala and Casa Blanca, May 10, 1925.

64951. No. 79. Growing on dry rocky soil near Icod, Teneriffe, Canary Islands, July 10, 1925.

64952. *MEDICAGO SOLEIROLII* Duby. Fabaceae.

No. 2. Collected on the road between Rabat and Casa Blanca, May 9, 1925. A spineless annual bur clover with rather large spineless pods; a vigorous grower and adapted to very dry roadside conditions and a region of winter rainfall.

For previous introduction, see S. P. I. No. 31007.

64953 and 64954. *MELICA CUPANI* Guss. Poaceae. Grass.

64953. No. 26. Collected between Mogador and Marrakesh, Morocco, May 17, 1925. A grass with tall dense heads, growing under the protection of *Ziziphus lotus* growth which keeps the goats from destroying it. This variety seems to thrive in hard baked clay soil.

64954. No. 86. A tall-growing species found on the sun-baked soil by the roadside, between Marrakesh and Mogador, Morocco, May 22, 1925.

64955. *MELILOTUS SPECIOSA* Durieu. Fabaceae.

No. 107. From a few plants along the railroad between Rabat and Sale, Morocco, near the bridge across the Bou Regreg River, June 14, 1925. A vigorous plant which should have distinct value as a forage when grown in a region of light rainfall (19 inches annual), moderately high temperatures (maximum 115° and minimum 27° F.), and a soil of stiff clay. The plant grows to a height of about 4 feet and carries a good quantity of leaves.

64956. *MORUS NIGRA* L. Moraceae. Black mulberry.

No. 134. From Barranco Ruis, Orotava, Teneriffe, Canary Islands, July 11, 1925. A black mulberry which has grown wild on Teneriffe in the barrancos and bears immense quantities of deliciously acid fruits.

For previous introduction, see S. P. I. No. 41459.

64957. *MUSCARI* sp. Liliaceae. Grape hyacinth.

No. 102. From Ito Plateau, near Azrou, Morocco, June 17, 1925. A species peculiar to the Middle Atlas Mountains, found at an altitude of 1,300 meters.

A spring-blooming bulbous plant with blue or white flowers in racemes or spikes.

64958. *MYOPORUM INSULARE* R. Br. Myoporaceae.

No. 92. Presented by M. Pochon, Jardin d'Acclimatation, Rabat, Morocco, May, 1925. An Australian tree which has come to be widely used in Morocco as a windbreak and a hedge plant near the sea, as it withstands the salt air well. The evergreen foliage presents a pleasing appearance.

64907 to 65000—Continued.

64959. *NERIUM OLEANDER* L. Apocynaceae. Oleander.

No. 96. Seeds from a wild form growing in the Sous Valley, near Agadir, Morocco, June 7, 1925. It may be worth testing for drought resistance and for resistance to scale infestation.

64960. *OCOTEA FOETENS* (Ait.) Benth. and Hook. Lauraceae.

From trees near Moya, Canary Islands, July 27, 1925. The "til" tree of the Canary Islands is a species which is rapidly disappearing. It has beautiful glossy evergreen leaves and attractive fruits. The handsome dark wood is used for cabinetwork.

For previous introduction, see S. P. I. No. 31903.

64961. *UCHNA MULTIFLORA* DC. Ochnaceae.

No. 128. From the old garden of the famous botanist Wildpret at Orotava, Teneriffe, Canary Islands, July 11, 1925. An extremely ornamental low-growing shrub with purple berries which are borne on a red receptacle.

64962. *ADENOCARPUS FOLIOLOSUS* (Dryander) DC. Fabaceae.

No. 124. A yellow-flowered ornamental shrub growing along the road to Monte de las Lomitas, near San Andres, Palma, Canary Islands, July 19, 1925.

64963. *ORCHIS PAPILIONACEA* L. Orchidaceae.

No. 38. Found in a Berber cemetery, near Amizmiz, in the Great Atlas Mountains, south of Marrakesh, Morocco, May 30, 1925. A terrestrial orchid, about 18 inches high, which grows in soil that bakes as hard as a brick before the last of May. This variety produces tubers the size of a pigeon's egg, also attractive red flowers.

64964. *ORNITHOPUS COMPRESSUS* L. Fabaceae.

No. 89. Collected between Casa Blanca and Fedhala, Morocco, May 10, 1925. A forage legume which seems to be a rather constant factor in the pastures of Morocco, Spain, and the Canary Islands.

A slender spreading annual plant with pinnate leaves and very small yellow flowers.

64965. *PANDOREA AUSTRALIS* (R. Br.) Spach (*Tecoma australis* R. Br.). Bignoniaceae.

No. 141. From the Santa Brigida Hotel gardens, Monte, Grand Canary, Canary Islands, July 23, 1925.

An evergreen climbing shrub with glossy dark-green odd-pinnate leaves and yellowish flowers with violet spots in the throat. Native to Australia.

For previous introduction, see S. P. I. No. 46384.

64966. *PAPAVER* sp. Papaveraceae. Poppy.

No. 138. A dwarf form of very delicate habit with peculiarly brilliant scarlet flowers, inhabiting the dry talus of lava rocks in the caldera (dry crater) of the extinct volcano near Los Llanos, Palma, Canary Islands, July 16, 1925.

64907 to 65000—Continued.

64967. *PERSIA INDICA* (L.) Spreng. Lauraceae.

No. 165. Collected in private gardens at Las Palmas, Grand Canary, Canary Islands, July 22, 1925. A handsome medium-sized tree native to the Canary Islands and the Azores, where it is used as a shade tree in private gardens.

For previous introduction, see S. P. I. No. 39054.

64968. *PHOENIX DACTYLIFERA* L. Phoenixaceae. Date.

No. 31. Brought from Timimoun, 15 days' caravan ride from Figuif, by C. L. Fournier, of Targa, Marrakesh, Morocco, and presented by M. Savarin, May 17, 1925. This date is said to be one of the best of the Moroccan Sahara.

64969. *PODACHAENIUM EMINENS* (Lag.) Schults-Bip. (*P. paniculatum* Benth.). Asteraceae.

No. 117. A rapidly growing ornamental shrubby composite from Mexico with showy yellow flowers, found in the Jardín de Acclimatación, Orotava, Tenerife, Canary Islands, July 12, 1925.

For previous introduction, see S. P. I. No. 43235.

64970. *PSORALEA BITUMINOSA* L. Fabaceae.

No. 143. Barranco Ruiz, Orotava, Tenerife, Canary Islands.

The federa is a perennial plant which one finds everywhere along the roads and trails through the barrancos of the islands. On some of the terraces, where the soil is too shallow and dry for alfalfa, it is cultivated for its hay. It is said to be a splendid milk producer.

64971. *RHAMNUS CRENULATA* Ait. Rhamnaceae.

No. 125. From the Barranco de la Galga, Palma, Canary Islands, July 30, 1925. A bush 4 feet high, with large numbers of stiff short branches of a spiny character and red berries. May prove to be a valuable plant for hedges.

64972. *RHUS PENTAPHYLLA* (Jacq.) Desf. Anacardiaceae.

No. 19. Collected on the road between Rabat and Casa Blanca, May 8, 1925. A drought-resistant shrub which, when in fruit, is covered with very beautiful red berries. The trunk and roots yield a valuable tannin which is an article of export.

64973. *ROSA SEMPERVIRENS* L. Rosaceae. Rose.

No. 95. A wild white single rose found in the Oued Korifa, near Boulhout, May, 1925.

For previous introduction, see S. P. I. No. 56820.

64974. *SALVIA* sp. Menthaceae. Sage.

No. 100. A handsome light blue-flowered sage found near Rabat, Morocco, May, 1925.

64975. *SCIRPUS HOLOSCHOENUS* L. Cyperaceae.

No. 140. From the Barranco Ruiz, Orotava, Tenerife, July 10, 1925. A giant rush growing to 7 feet in height

64907 to 65000—Continued.

and used in years past by the Tenerife peasants for basket work. It is the handsomest rush I have ever seen, and it would be worth growing as an ornamental plant.

64976 to 64978. *SCORPIURUS SULCATA* L. Fabaceae.

An annual leguminous plant, native to the Mediterranean region, with one to three prostrate or ascending stems up to a foot and a half in length and simple narrow leaves. The flowers are yellow.

64976. No. 9. From an abandoned wheat field near Amismiz, Morocco, May 19, 1925.

64977. No. 93. On the road between Casa Blanca and Fedhala, Morocco, May 10, 1925.

64978. No. 108. From the side of an irrigation ditch, near Marrakesh, Morocco, May 17, 1925.

64979. *SCORPIURUS VERMICULATA* L. Fabaceae.

No. 33. Collected on the road between Casa Blanca and Fedhala, Morocco, May 10, 1925.

A trailing annual with leaves tapering into the stems and with yellow flowers. Native to the Mediterranean countries.

64980. *SODALE CEREALE* L. Poaceae. Rye.

No. 27. A high-altitude rye of Berber origin from the Atlas Mountains which Auguste Tornery, the inspector of agriculture at Marrakesh, has found to be an unusually good forage variety. Presented by Mr. Tornery, May 17, 1925.

64981. *SEMPERVIVUM PALMENSE* (Webb) Christ. Crassulaceae.

A remarkable species whose young rosettes of leaves look like rosebuds. Found on the dry perpendicular rocks of the caldera or old crater of the volcano near Los Llanos, Palma, Canary Islands, July 16, 1925.

64982. *SEMPERVIVUM* sp. Crassulaceae.

No. 113. From San Andres, Palma, Canary Islands, July 20, 1925. A charming species growing on the sun-baked cliffs in Palma Island. When young the plants resemble rosebuds in shape and are very attractive.

64983. *SEMPERVIVUM* sp. Crassulaceae.

No. 115. From the Barranco Ruiz, near Orotava, Tenerife, Canary Islands, July 11, 1925. A beautiful velvety leaved species which turns reddish when old and is altogether a charming form.

64984. *SOLANUM AVICULARE* Forst. f. Solanaceae.

No. 118. From the old garden of the great botanist Wildpret, Orotava, Tenerife, Canary Islands, July 11, 1925. A beautiful blue-flowered yellow-fruited shrub with lacinate leaves.

64985. *SPERGULARIA DIANDRA* Boiss. Siliaceae.

No. 145. A very pretty annual with pink flowers, which stands a great deal of dry weather. This variety spreads over the ground in a mat. Found on a roadside near Ronda, Spain, July 1, 1925.

64907 to 65000—Continued.

64986 to 64988. *STIPA TORTILIS* Desf.
Poaceae. Grass.

An annual bushy grass with prostrate or ascending stems up to a foot and a half long and gray-green leaves. Native to sandy and stony places in the Mediterranean countries.

64986. No. 12. From the road between Mogador and Marrakesh, Morocco, May 17, 1925.

64987. No. 44. Collected in a wheat field, near Marrakesh, Morocco, on the road to Mogador, May 17, 1925.

64988. From the road between Mogador and Marrakesh, Morocco, May 16, 1925.

64989. *TAMARIX GALLICA* L. *Tamarica-*
ceae. *Tamarisk.*

No. 139. July, 1925. Var. *canariensis*. A very attractive form of the common variety which is used in the island of Teneriffe as a windbreak to protect the banana plantations.

64990 to 64997. *TRIFOLIUM* spp. Fabaceae. Clover.

64990. *TRIFOLIUM ANGUSTIFOLIUM* L.

No. 91. From the Barranco de la Galga, Palma, Canary Islands, July 20, 1925.

An annual clover, native to the Mediterranean region, with one to three prostrate or ascending stems up to a foot or more in length.

For previous introduction, see S. P. I. No. 46811.

64991. *TRIFOLIUM ISTHMOCARPUM* Brot.

No. 39. From the road between Casa Blanca and Fedhala, Morocco, May 10, 1925.

A many-stemmed annual clover, about a foot high, with dense heads of pink flowers. Native to Spain and North Africa.

64992. *TRIFOLIUM STRIATUM SPINESCENS* Lange.

No. 164. From the road between Ronda and Grazalema, Spain, July 1, 1925. A tiny dwarf clover not over 4 inches high, which forms patches of considerable size in the region near Ronda.

64993 to 64995. *TRIFOLIUM TOMENTOSUM* L.

A dense low-growing annual or biennial clover with stems usually less than 8 inches long. Native to dry barren places in the Mediterranean region.

64993. No. 24. From an irrigation ditch just outside of Marrakesh, Morocco, May 17, 1925.

64994. No. 42. From the edge of an irrigation ditch near the experimental farm, Marrakesh, Morocco, May 17, 1925.

64995. No. 98. From the road between Casa Blanca and Fedhala, May 10, 1925.

64996. *TRIFOLIUM* sp.

No. 30. A dwarf clover, not over 3 inches high, which forms dense mats

64907 to 65000—Continued.

in the dry soil on the road between Rabat and Casa Blanca, Morocco, May 8, 1925.

64997. *TRIFOLIUM* sp.

No. 41. A dwarf clover, not over 5 inches high, forming patches of considerable size in the dry clay soil near Marabout, beyond Amismiz, Morocco, May 30, 1925.

64998. *TRITICUM DURUM* Desf. Poaceae.
Durum wheat.

No. 34. From the experimental farm, Marrakesh, presented by Auguste Tornezy, inspector of agriculture at Marrakesh, May 17, 1925. Var. *dredria*. A native Moroccan variety which, according to Mr. Tornezy, has the advantage of keeping the birds from stealing the grain because the heads bend as they ripen, throwing the awns into an upright position which the birds do not like.

64999 and 65000. *VICIA SATIVA* L. Fabaceae. Common vetch.

64999. No. 11. From a hedgerow along the road between Tanaourt and Marrakesh, Morocco, May 17, 1925.

65000. No. 45. From wheat fields between Mogador and Marrakesh, Morocco, May 17, 1925.

65001 to 65047.

From the Mediterranean region. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received September, 1925. Notes by Doctor Fairchild.

65001 and 65002. *CAPSICUM ANNUUM* L. Solanaceae. Red pepper.

65001. No. 197. Obtained in the market at Inca, Majorca, Balearic Islands, August 19, 1925. A remarkable, extremely large, handsome scarlet variety of fine flavor. The pods measure 8 inches in length and 9 inches in the largest circumference. Nearly all of the seeds are located on the central placenta.

65002. No. 217. Obtained in the market at Port Mahon, Minorca, Balearic Islands. A variety of "bull-nose" pepper of unusual size, being 4 inches long and 4 inches across. It is rather too deeply lobed to be ideal in shape, nevertheless it is large enough to be quite attractive.

65003. *CISTUS CRISPUS* L. Cistaceae.

No. 158b. From the Montelirio estate near Ronda, Spain, July 1, 1925. A pink-flowered species growing with No. 158a [S. P. I. No. 65004] in cork-oak forests near Ronda.

A compact hairy shrub about 2 feet high, with sessile, very narrow leaves and three to four flowers about 2 inches across. Native to southern Europe.

65004. *CISTUS* sp. Cistaceae.

No. 158a. A beautiful white-flowered rockrose of southern Spain which covers great stretches of country in the cork-oak forests around Ronda. From the Montelirio estate near Ronda, July 1, 1925.

65005. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

No. 220. From the market at Las Palmas, Grand Canary, Canary Islands, Au-

65001 to 65047—Continued.

gust, 1925. A delicious dark-fleshed variety, perfectly round, with a thin dark-green rind.

65006. *COTYLEDON UMBILICUS* L. Crasulaceae.

No. 157. From Barranco de la Galga, Palma, Canary Islands, July 20, 1925. A plant with tubers which enable it to live on the tile roofs of houses in the dry burning summer climate of Morocco and the Canary Islands.

65007. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

No. 203. Seeds of the "Francesca" and "Valencianos" varieties of melon purchased from the seed dealer Bartolome Amengual Delmau, Palma, Majorca, Balearic Islands, August 22, 1925.

65008 to 65011. *CYTISUS* spp. Fabaceae.

65008. *CYTISUS FILIPES* Webb and Berth.

No. 167. From the Barranco de la Galga, Palma, Canary Islands, July 20, 1925. A shrub which is grown for its fragrant white flowers, on the terraces of the barrancos of the island. It resembles superficially a *Genista*.

65009. *CYTISUS PALMENSIS* (Christ) Tagasaste.

No. 180b. From the hillside above Santa Cruz, Palma, Canary Islands, July 16, 1925. One of the varieties of tagasaste which is deserving of trial as a forage shrub for the cool, but not cold, regions of California and Arizona. Unless the bushes are cut they become so woody and hard that the stock refuse to eat them. The shrub, 12 feet or less in height, has long slender hairy branches, narrow leaves, silky beneath, and axillary clusters of white flowers. Native to the Canary Islands.

65010. *CYTISUS PEREZII* Hutchinson. Escabon.

No. 180a. From Osario, Terror, Grand Canary, Canary Islands, July 26, 1925. The escabon of the Canary Islanders, who grow it for firewood largely, but do not cut it for forage as they do tagasaste [S. P. I. No. 65009]. The flowers are white and are said to be fragrant. This is an ornamental of some promise.

65011. *CYTISUS STENOPETALUS* (Webb) Christ.

Nos. 151 and 152. From the old Perez garden, now part of the grounds of the Hotel Victoria, Orotava, Tenerife, Canary Islands, July 9, 1925. The "gacia" or "gacio" is a forage crop of the Canary Islands used particularly for feeding goats; it is said to induce milk production. It is a shrub or small tree, 20 feet or less in height, with crowded silky pubescent foliage and elongated racemes of bright-yellow flowers. Native to the Canary Islands.

For previous introduction, see S. P. I. No. 44832.

65012. *DOLICHOS JACQUINH* DC. (*D. lignosus* Jacq., not L.). Fabaceae.

No. 179. From an old garden wall at Chella, the old Moorish ruin of Kasba, near Rabat, Morocco, June 21, 1925.

65001 to 65047—Continued.

The profuse blooming habit and the extreme elegance of foliage make this Australian vine valuable for covering porches. It is an evergreen perennial with leaves much smaller than those of *Dolichos lablab*. The flowers are white or purplish.

For previous introduction, see S. P. I. No. 48668.

65013. *EPHEDRA ALTISSIMA* Desf. Gneta-ceae.

No. 227. Collected in an Arab cemetery near Amismiz, south of Marrakesh, Morocco, May 30, 1925.

A climbing much-branched shrub, up to 20 feet in height, with green branches resembling the stems of the horsetail (*Equisetum*), very small leaves, and beryllike scarlet fruits. Native to North Africa.

For previous introduction, see S. P. I. No. 57930.

65014. *FUCHSIA CORYMBIFLORA* Ruiz and Pav. Onagraceae.

No. 155. From the old Perez garden, now part of the grounds of the Hotel Victoria, Orotava, Tenerife, Canary Islands, July 12, 1925.

A handsome Peruvian fuchsia with large serrate taper-pointed leaves and deep-red flowers. The plant becomes tall, but requires support to attain full height, and is therefore adapted for pillars or pergolas in the warmest parts of the United States.

65015 to 65018. *GENISTA* spp. Fabaceae.

65015. *GENISTA MONOSPERMA* (L.) Lam.

No. 172. From the park at Icod, Tenerife, Canary Islands, July 9, 1925.

For previous introduction and description, see S. P. I. Nos. 64924 to 64926.

65016. *GENISTA RHODORHIZOIDES* Webb and Berth.

No. 173. From a private garden at Yaiza, Lanzarote, Canary Islands, July 30, 1925. A white-flowered fragrant shrub growing 10 to 12 feet in height when cultivated. Useful probably as a sand binder and also for forcing purposes in greenhouses because of its fragrant flowers.

65017. *GENISTA SPHAEROCARPA* Lam.

No. 159. From the hillsides near Ronda, Spain, July 1, 1925.

For previous introduction and description, see S. P. I. No. 64927.

65018. *GENISTA* sp.

No. 186. From Mercedes, Tenerife, Canary Islands, at an altitude of 2,300 feet, July 12, 1925. A leguminous shrub which may have value as a soil improver.

65019. *GOSSYPIUM* sp. Malvaceae.

Cotton.

No. 206. San Antonio, Iviza, Balearic Islands, August 14, 1925. From a single plant which most likely had escaped from some garden.

65020. *JUNIPERUS PHOENICEA* L. Pinaceae.

Juniper.

No. 207. Collected near San Giuseppe, Iviza, Balearic Islands, August 16, 1925.

65001 to 65047—Continued.

As seen in the Balearic Islands, this is a small pyramidal tree; and in the mountains of Algeria and Morocco, where the land is stony and dry, the temperature reaching over 95° F., and no rain falling during the summer, it is a spreading bushy tree. It produces an abundance of reddish brown fruits and is said to yield an aromatic resin, although I did not hear of this being collected in the regions where it grows.

For previous introduction, see S. P. I. No. 54919.

65021. LONICERA IMPLEXA Ait. Caprifoliaceae. **Honeysuckle.**

No. 193. Growing wild on the rocky hillsides at the Coll de Soller, Majorca, Balearic Islands, August 19, 1925. A rather small shrubby honeysuckle with perfoliate leaves and pink berries in the axils of the leaves.

65022. LOTUS sp. Fabaceae.

No. 183. Near Icod, Teneriffe, Canary Islands, July 10, 1925. A very deep-rooted species found on dry rocky hillsides.

65023. LYCOPERSICON ESCULENTUM Mill. Solanaceae. **Tomato.**

No. 201. From Vanalbufar, Majorca, Balearic Islands, August 22, 1925. A small round tomato, 1½ inches in diameter, of a brilliant red color and extraordinary drying qualities. The fruits, about 90 to a bunch, are strung up on threads and dried in special rooms. The semidried fruits are shipped to Spain in immense quantities. This variety has very few seeds and a strong but agreeable tomato flavor.

65024. MEDICAGO ARBOREA L. Fabaceae.

No. 221. From Barranco Simon, Minorca, Balearic Islands, August 24, 1925. This shrubby species is grown extensively, I am informed, as a hedge plant in the island of Minorca, and the branches are cut and fed to stock.

For previous introduction, see S. P. I. No. 28277.

65025 and 65026. MELILOTUS SULCATA Desf. Fabaceae.

An annual pale-green leguminous plant, upright in habit, branched from the base, and up to a foot and a half high. The flowers are small and yellow. Native to the Mediterranean countries.

For previous introduction, see S. P. I. No. 43597.

65025. No. 181. Found by the roadside between Azrou and Meknez, Morocco, June 16, 1925.

65026. No. 212. From the roadside near Soller, Majorca, Balearic Islands, August 20, 1925.

65027 and 65028. ORNITHOPUS COMPRESSUS L. Fabaceae.

A slender spreading annual plant with pinnate leaves and very small yellow flowers.

For previous introduction, see S. P. I. No. 64964.

65027. No. 154. From the fields near Algeciras, Spain, June 27, 1925.

65001 to 65047—Continued.

65028. No. 155. From the Barranco de la Galga and Punta Llama, Palma, Canary Islands, July 20, 1925.

65029. ORNITHOPUS PINNATUS (Mill.) Druce (*O. ebracteatus* Brot.). Fabaceae.

No. 161. From Monte de las Lomitas, Palma, Canary Islands, July 19, 1925. A slender-stemmed annual plant, sometimes 20 inches high, prostrate or ascending in habit, with small yellow flowers. Native to the Mediterranean region.

65030. PANCRACTIUM MARITIMUM L. Amarillidaceae.

No. 209. From the beach at Cala Parte, near Port Mahon, Minorca, Balearic Islands, August 25, 1925. I never saw a more beautiful sight than that produced by thousands of this maritime lily growing in pure sand on the tiny beach at Cala Parte. The fragrance from these beautiful white flowers, over 2 inches long, was delightful.

65031. PERSEA INDICA (L.) Spreng. Lauraceae.

No. 169. From the old Perez garden, now a part of the grounds of the Hotel Victoria, Orotava, Teneriffe, Canary Islands.

For previous introduction and description, see S. P. I. No. 64967.

65032. PLOCAMA PENDULA Ait. Rubiaceae.

No. 185. Collected on the road to Ingenio, Grand Canary, Canary Islands, July 26, 1925. A dwarf drooping willowlike shrub, light green, which grows to an old age in the driest soils of the dry regions of the island of Teneriffe. It bears great clusters of small white berries resembling those of the mistletoe.

For previous introduction, see S. P. I. No. 55920.

65033. PSORALEA BITUMINOSA L. Fabaceae.

No. 177. Presented by Cesar Martinez Barreda, Santa Cruz, Palma, Canary Islands, July 17, 1925.

For previous introduction and description, see S. P. I. No. 64970.

65034. RUBUS DISCOLOR Weihe and Nees. Rosaceae.

No. 192. From Soller, near Palma, Majorca, Balearic Islands, August 19, 1925. A very spiny species loaded with black fruits which were rather dry but sweet. The individual fruits were round. It is inferior to our cultivated varieties, but of possible value for breeding purposes.

For previous introduction, see S. P. I. No. 42750.

65035 to 65037. SCORPIURUS spp. Fabaceae.

65035. SCORPIURUS SUBVILLOSA L.

No. 196. Collected on the road between Palma and Soller, Majorca, Balearic Islands, August 19, 1925. A decumbent or ascending annual with one to three stems up to 20 inches in length, long-stemmed simple grass-green narrow leaves, and small yellow flowers. Native to the Mediterranean countries.

65001 to 65047—Continued.

For previous introduction, see S. P. I. No. 58710.

65036. *SCORPIURUS SULCATA* L.

No. 160. From Monte de las Lomitas, Palma, Canary Islands, July 19, 1925.

For previous introduction and description, see S. P. I. No. 64976.

65037. *SCORPIURUS VERMICULATA* L.

No. 176. Collected near Algeciras, Spain, June 27, 1925.

For previous introduction and description, see S. P. I. No. 64979.

65038. *SEMPERVIVUM* sp. Crassulaceae.

No. 153. From Barranco de la Gomera, Palma, Canary Islands, July 17, 1925. A handsome species, turning a beautiful red in summer, which is worth cultivating because of its ability to grow on stone walls in southern latitudes and withstand long periods of drought. The leaves, fringed with short hairs, form a great rosette on a short stem.

65039. *SEMPERVIVUM* sp. Crassulaceae.

No. 166. A strikingly handsome species which produces rosettes of thick, fleshy, but glaucous leaves resembling half-opened rosebuds. It grows from crevices in the precipitous cliffs of the so-called Barranco de las Aguas, near Monte de las Lomitas, Palma, Canary Islands, July 19, 1925.

65040. *SONCHUS* sp. Cichoriaceae.

Nos. 170 and 171. From the old Perez garden, now part of the grounds of the Hotel Victoria, Orotava, Teneriffe, Canary Islands, July 18, 1925. A large yellow-flowered species with rather succulent leaves. It is much sought after by goats.

65041 to 65044. *TRIFOLIUM* spp. Fabaceae.65041. *TRIFOLIUM* sp. Clover.

No. 162. A species forming mats of considerable size on the cultivated terraces where barley and wheat are grown in the Barranco de la Galga, Palma, Canary Islands, July 20, 1925.

65042. *TRIFOLIUM* sp.

No. 163. A small dwarf species growing in pasture land in the hills near Algeciras, Spain, June 27, 1925.

65041 to 65047—Continued.

65043. *TRIFOLIUM* sp.

No. 210. A small dwarf clover forming a fine mat of herbage in a rather moist meadow near the torrente or dry watercourse of Molinar, near Palma, Majorca, Balearic Islands, August 21, 1925.

65044. *TRIFOLIUM* sp.

No. 214. I found the dry pasture land in the Barranco de Cala Parte, near Port Mahon, Minorca, Balearic Islands, August 25, 1925, covered with dry clover heads of this small species.

65045. *WARIONIA SAHARAE* Benth. and Coss. Asteraceae.

No. 129. Collected near Agadir, Morocco, on the road to Mogador, June 8, 1925. A very striking tree composite, native to the Sahara Desert of western Algeria and Morocco, which forms a tree 10 feet or more high and bears great yellow flowers which are almost as large as those of the artichoke.

65046 and 65047. *ZEA MAYS* L. Poaceae. Corn.

65046. No. 182. Collected near Uga, Lanzarote, Canary Islands, July 31, 1925. The dwarf maize of Lanzarote, which I take to be a distinct race and which is practically the only variety grown on that volcanic cinder-covered island, appears to be a brachytic dwarf with stems as large in diameter as ordinary corn but only about 24 inches high. Ordinarily only a single ear of corn is borne, and its lower end is so close to the ground that it gives the impression of rising right out of the gray cinders. I was told that six months are required to produce these small ears. This corn does not appear to be of especially good quality. Lanzarote has a cool climate, there being heavy dews every night, although for two years there has been no rain.

65047. No. 219. From Las Palmas, Grand Canary, Canary Islands, July 25, 1925. A very brilliantly colored variety grown extensively all over this island of Grand Canary. It has a translucent appearance quite foreign to the corns in America. In the dry portion of the island this corn makes a stunted, slow growth, but it is not a true dwarf such as No. 182 [S. P. I. No. 65046].

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Festuca ovina.
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November, 1927

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This inventory is a contribution from

<i>Bureau of Plant Industry</i> -----	WILLIAM A. TAYLOR, <i>Chief.</i>
<i>Office of Foreign Plant Introduction</i> -----	DAVID FAIRCHILD, <i>Senior Agricultural Explorer, in Charge.</i>

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UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 85



Washington, D. C.

Issued July, 1928

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, FROM OCTOBER 1 TO DECEMBER 31, 1925 (NOS. 65048 TO 65707)

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INTRODUCTORY STATEMENT

The outstanding feature of this inventory is the large proportion of introductions from P. H. Dorsett, agricultural explorer, who continued his work in Manchuria. The importance of this region for agricultural exploration was discussed in the introductory statement to Inventory No. 84.

The nature of the plant material obtained by Mr. Dorsett was quite general and included everything of economic value available at a given place and time. The products of the native markets were carefully scrutinized and propagating material collected of any fruits or vegetables which appeared to be superior in any way to varieties now grown in the United States. Many wild plants also were collected, including such as might be of ornamental value or useful as forage. Transportation to various parts of the country was greatly facilitated through the courtesy of the Chinese Eastern Railway, and the cooperation of the Manchurian Research Society made it possible to procure selected types of cereals and forage plants from their experiment stations.

J. F. Rock, working under the direction of the Arnold Arboretum and as a collaborator of this office, continued his botanical exploration of the Province of Kansu, western China, collecting a number of interesting woody plants. These include several hardy ornamental spruces (*Picea* spp., Nos. 65689 to 65692) which appear to be new to horticulture.

A collection of tubers of wild potatoes (*Solanum* spp., Nos. 65444 to 65449), presented by Elbert Reed of the Instituto Agrícola Bunster, Angol, Chile, will be of special interest to potato breeders. These tubers were collected on the island of Chiloe and on the mainland of Chile north of this island, part of the region considered by many horticulturists to be the original home of the potato.

A collection of local varieties of the kaki (*Diospyros kaki*, Nos. 65578 to 65583) was sent in by F. A. McClure, agricultural explorer, from Honam Island, a few miles east of Canton, China. With this bud wood Mr. McClure transmitted detailed notes on the character and uses of the fruits of these varieties.

Aleurites trisperma (No. 65297), a Philippine relative of the Chinese tung-oil tree (*Aleurites fordii*), is the source of bagilumbang oil, similar in composition to tung oil, but somewhat lighter in color. The tree is tropical in its requirements, but may succeed in southern Florida. The precise value of the oil in the paint and varnish industries has yet to be determined, but this Philippine species should be included in tropical experiments with this group of oil-producing trees.

Attention may well be called again to the species of *Actinidia*, several of which are included in this inventory. Both *A. arguta* and *A. chinensis* have fruited in the United States and have sufficient good qualities to make them decidedly worthy the attention of horticulturists and plant breeders. Hybridization is possible, as already shown by a cross between *A. arguta* and *A. chinensis* made by Doctor Fairchild (*Journal of Heredity*, vol. 18, No. 2, 1927), and improvement by selection likewise offers a promising field. Horticulturists also should give attention to the cultural requirements of the several species.

Arachis nambyquarae (No. 65296) has proved very interesting in preliminary experiments by reason of its great variability. Selections made have differed widely, some giving very low yields of seed while others have given very high yields. The value of this species is yet to be determined, but it is very promising for experimental work.

Crotalaria striata (No. 65295) is but another introduction of this species which has proved of so much promise as an orchard cover and green manure in northern Florida. It needs to be widely tested throughout the southern parts of the Gulf States and west to southern California.

Interest in stocks at the present time justifies calling special attention to a German type of mazzard cherry (*Prunus avium*, No. 65127) which is reported of possible value for this purpose on account of its longevity and resistance to disease.

One of the most interesting ornamentals in this inventory is *Euonymus macropterus* (No. 65490). The brilliant coloring and pendulous habit of the floral parts in its native habitat are very striking, and these characteristics together with its bright-colored autumnal foliage should make it a pleasing addition to any landscape.

Another introduction, *Edgeworthia gardneri* (No. 65250), a handsome yellow-flowered bush from the temperate Himalayas, should be given further trial in the more humid regions of the southern United States, where it may succeed better than it has in the drier portions of the Southwest and California. Besides its ornamental value, it yields a strong, tough fiber, from which excellent paper has been made in Nepal.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,
Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., June 6, 1927.

INVENTORY¹

65048. LODOICEA SONNERATI (Gisek)
Baill. (*L. callypige* Comm.). Phoe-
nicaceae. Double coconut.

From the Seychelles Islands. Seeds presented by
P. R. Dupont, Director of Agriculture. Received
October 17, 1925.

The double coconut, or coco de mer, as described
by Bailey (Standard Cyclopedia of Horticulture,
p. 1899), is a lofty palm, frequently 100 feet in
height, with palmate leaves the blades of which are
6 feet across. The fruits are probably the largest
known, the individual nuts sometimes weighing
50 pounds; from the time of flowering to the full
maturity of the seeds is said to cover a period of 10
years, and the palm itself does not attain full growth
until after a hundred years. It is native to the
Seychelles.

65049. ROSA ROULETTII Correvon.
Rosaceae. Rose.

From Chene Bourg, near Geneva, Switzerland.
Plants purchased from H. Correvon. Received
December 19, 1925.

A dwarf shrubby rose of the general type *Rosa*
laurenciana, but even smaller than the latter. As
grown in my garden, it does not become more than
4 inches high, and the very numerous red flowers
are produced continuously from May to January
if the plant is sheltered. (Correvon.)

For previous introduction, see No. 61853.

65050. ARGYROXIPHIMUM SANDWICENSE
MACROCEPHALUM (A. Gray) Hillebr.
Asteraceae. Silversword.

From Honolulu, Hawaii. Seeds presented by C.
S. Judd, Superintendent of Forestry. Received
October 1, 1925.

Collected in the crater of Haleakala on the
island of Maui, at an altitude of approximately 8,000
feet above sea level. (Judd.)

The silversword plant of Hawaii is, according
to W. J. Hooker (Icones Plantarum, pl. 75), about
2 feet high, with long, narrow, basal leaves copiously
covered with long, silvery white hairs, and a flow-
ering stem a foot or two in length which bears a
large number of silvery asterlike flowers.

It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other
plants used in this inventory are those under which the material was received when introduced by the
Office of Foreign Plant Introduction, and, further, that the printing of such names here does not consti-
tute their official publication and adoption in this country. As the different varieties are studied, their
entrance into the American trade forecast, and the use of varietal names for them in American literature
becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change
with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the
seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone.
Many of the unusual plants listed in these inventories are appearing in this country for the first time, and
there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be
compared. The only identification possible is to see that the sample received resembles seeds of other
species of the same genus or of related genera. The responsibility for the identifications, therefore, must
necessarily often rest with the person sending the material. If there is any question regarding the correct-
ness of the identification of any plant received from this office, herbarium specimens of leaves and flowers
should be sent in, so that definite identification can be made.

65051 and 65052. PRUNUS spp. Amyg-
dalaceae. Plum.

From Paris, France. Seeds presented by Vilmorin-
Andrieux & Co. Received October 2, 1925.

65051. PRUNUS BRIGANTINA Vill. Alpine plum.

The Alpine plum is a shrub or small spineless
tree, native to the French Alps; the small,
smooth, subacid fruits are about the size of small
green-gage plums.

For previous introduction, see No. 62298.

65052. PRUNUS COCOMILIA Ten. Italian plum.

The Italian plum, allied to the Cherry plum
(*Prunus cerasifera*), is a bush or small tree with
thorny branches, oval, sharp-toothed leaves, and
small globular fruits which are fairly good for
eating.

For previous introduction, see No. 62299.

65053 and 65054. GUILIELMA UTILIS
Oerst. Phoenicaceae. Pejibaye.

From Gatun, Canal Zone. Seeds presented by
Joseph A. Close. Received October 3, 1925.

Two varieties of pejibaye from the headwaters
of the Ciriecto arm of Gatun Lake, about 30 miles
west of Gatun, at an altitude of about 100 feet.
(Close.)

65053. No. 1. 65054. No. 2.

See No. 56158 for a descriptive note.

65055. DENDROCALAMUS SIKKIMENSIS
Gamble. Poaceae. Bamboo.

From Kew, Surrey, England. Seeds presented by
Dr. Thomas F. Chipp, assistant director, Royal
Botanic Gardens. Received October 12, 1925.

This is described (Annals of the Royal Botanic
Garden, vol. 7, p. 82) as a beautiful tufted bamboo
native to Sikkim, India, where the dark-green
culms reach a height of 60 feet or more and a diam-
eter of 5 to 7 inches. The species is easily distin-
guished by its large, reddish-brown, globular
flower heads and densely velvety stem sheath.
The long, narrow leaves are said to be poisonous,
and from the stems are made the "chugas" or
native buckets, used for carrying water and milk
and for churning.

For previous introduction, see No. 56457.

65056. BUMELIA sp. Sapotaceae.

From San Francisco, Calif. Seeds presented through Miss Alice Eastwood, California Academy of Sciences, Golden Gate Park. Received October 6, 1925.

A recent expedition of the California Academy of Sciences to Lower California visited Socorro Island, where there was discovered a tree whose fruits were being eaten by parrots and other birds. These fruits are said to be about the size, shape, and color of a ripe olive, with a sweet, delicious pulp. One of the collectors of the expedition, Mr. Mason, obtained seeds which were presented to this office through Miss Eastwood.

65057. IRIS HOOGIANA Dykes. Iris. Iris. Iris.

From Westminster, England, Rhizomes presented by William R. Dykes, Secretary, Royal Horticultural Society. Received October 13, 1925.

This attractive iris was originally described by Mr. Dykes in the Gardeners' Chronicle (vol. 60, ser. 3, p. 216). It is a native of Turkestan and has been cultivated in England by Mr. Dykes since 1913. It is remarkable for the fact that the flowers, unlike those of the other members of the *Regelia* section, are of a uniform pale lavender, set off by the brilliant orange beard of closely set hairs. The leaves are about 16 inches long, glaucous green, and the stem, 20 inches high, bears a single cluster of two or three flowers.

65058 and 65059. LILIUM spp. Lily. Lily.

From Mefun, Manchuria. Bulbs collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received October 15, 1925.

65058. LILIUM sp.

No. 4144. September 13, 1925. From the top of the mountain.

65059. LILIUM sp.

No. 4143. September 13, 1925.

65060 to 65086.

From Harbin, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received October 1, 1925.

65060. ACTINIDIA sp. Dilleniaceae.

No. 4056. August 24, 1925. Presented by Mr. Erwin, of the Methodist Mission, who secured the fruits at Mefun. The fruit resembles an oblong white grape, and the pulpy flesh, inclosing small seeds, resembles that of a currant or gooseberry.

65061. ASTRAGALUS CHINENSIS L. f.

No. 3288. July 29, 1925. A herbaceous plant with white or creamy yellow pea-shaped flowers.

65062. BETULA JAPONICA Siebold. Betulaceae. Birch.

No. 4050. August 16, 1925. From white-barked birch trees in the garden of N. N. Prikashchikoff, Yaomin.

65063. CITRULLUS VULGARIS Schrad. Cucurbitaceae. Watermelon.

No. 4009. Yaomin. August 15, 1925. A small, round, very dark green, thin-skinned watermelon with deep-red flesh and black seeds. This proved to be a very good variety.

65064 to 65068. CUCUMIS MELO L. Cucurbitaceae. Melon.

65064. No. 4010. Yaomin. August 15, 1925. White seeds from a small oblong melon.

65060 to 65086—Continued.

65065. No. 4011. Yaomin. August 15, 1925. A yellow-skinned oblong melon with reddish seeds and thin white flesh.

65068. No. 4018. August 16, 1925. A small, bright-yellow melon with blotches of green and traces of brownish stripes, especially at the blossom end. A very fragrant variety, known as the pomegranate melon, pocket melon, and Persian apple melon.

65067 and 65068. CUCUMIS SATIVUS L. Cucurbitaceae. Cucumber.

65067. No. 4047. August 21, 1925. Said to be a hybrid between the local Chinese variety and a Russian variety; the seeds are from the Harbin Experiment Station, from fruits borne in the first and second leaf axils, which are said to give the earliest fruits, maturing in 50 days.

65068. No. 4048. August 21, 1925. Also from the Harbin Experiment Station, but from the second to the fifth leaf axils. This strain is said to be exceptionally good for outdoor planting, and matures later than the preceding, No. 4047 [No. 65067].

65069. ERIOCHLOA VILLOSA (Thunb.) Kunth. Poaceae. Grass.

No. 3994. August 18, 1925. A tall-growing, open-headed, large-seeded grass.

65070. MALUS sp. Malaceae. Crab apple.

No. 4046. August 21, 1925. A greenish yellow crab apple of medium size, with a pink cheek; secured from the nursery of the Chinese Eastern Railway at Harbin. The seedlings of this variety are used as stock for the variety itself.

65071. MEDICAGO FALCATA L. Fabaceae. Alfalfa.

No. 3186. July 29, 1925. Obtained from strong-growing plants on high, exposed ground in the new Russian cemetery.

65072. MELILOTUS OFFICINALIS (L.) Lam. Fabaceae. Sweet clover.

No. 4045. August 18, 1925. A tall, yellow-flowered variety found in the new Chinese cemetery.

65073. PHASEOLUS COCCINEUS L. Fabaceae. Scarlet Runner bean.

No. 3996. August 8, 1925. An ornamental vine used on trellises and fences in the new Russian cemetery. The flowers, which are large and very showy, are bright salmon; the beans are large and light or dark purple.

65074. POA sp. Poaceae. Grass.

No. 4051. Ertsingientze. August 23, 1925. A tall, open-headed grass found on low ground.

65075. PRUNUS ARMENIACA L. Amygdalaceae. Apricot.

No. 4015. Yaomin. August 15, 1925. The fruits are said to be yellow with a red blush and are freestone.

65076 to 65078. PRUNUS JAPONICA Thunb. Amygdalaceae. Cherry.

65076. No. 4006. Yaomin. August 14, 1925. The largest fruited cherry we have seen. The fruits of this ornamental shrub are said to be used for making jam.

65077. No. 4007. Yaomin. August 14, 1925. The second largest fruited variety; from the garden of the Chinese Eastern Railway.

65078. No. 4008. Yaomin. August 14, 1925. A small-fruited variety of the Manchurian cherry secured from N. N. Prikashchikoff.

65060 to 65086—Continued.

65079. *PYRUS* sp. Malaceae. Pear.

No. 4053. Ertsingientze. August 23, 1925. A wild Chinese variety from Mr. Wakefield's summer home; it produces hard, woody fruits. The trees are about a foot in diameter and 30 feet in height.

65080. *RIBES MANSHURICUM* (Maxim.) Komarov. Grossulariaceae. Currant.

No. 4005. Yaomin. August 14, 1925. A wild Manchurian red currant which produces the largest fruit we have seen, either wild or cultivated. The fruits, produced in bunches, are quite sour. We are told that this variety always bears a good crop and does not winterkill and that in this region it is not affected with rust, although we understand that it is so affected in the eastern part of Manchuria.

For previous introduction, see No. 40460.

65081. *PRUNUS* sp. Amygdalaceae. Plum.

No. 4013. Yaomin. August 15, 1925. From a single tree of one of the best of the seedling yellow plums in Mrs. Erenoff's orchard. The fruit of this plum is bright golden yellow and of very good quality. The tree is hardy and bears a regular crop.

65082. *PRUNUS* sp. Amygdalaceae. Plum.

No. 4014. Yaomin. August 15, 1925. A mixed lot of seeds from two hardy seedling trees in Mrs. Erenoff's orchard; this variety bears regular crops.

65083. *PRUNUS* sp. Amygdalaceae. Plum.

No. 4031. Yaomin. August 15, 1925. The largest sized yellow plum in the garden of the Chinese Eastern Railway. It is of very good quality.

65084. *PRUNUS* sp. Amygdalaceae. Plum.

No. 4033. Yaomin. August 15, 1925. The largest and best red-fruited plums, from a single tree in Mrs. Erenoff's orchard.

65085. *VICIA AMOENA* Fisch. Fabaceae. Vetch.

No. 3840. July 29, 1925. A leguminous plant, common in the vicinity of Harbin.

65086. *VITIS AMURENSIS* Rupr. Vitaceae. Amur grape.

No. 4052. Ertsingientze. August 23, 1925. Wild grapes consisting mostly of seed, juice, and skin, used for making wine.

For previous introduction, see No. 57367.

65087 to 65121.

From Harbin, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received October 6, 1925.

65087 to 65089. *AVENA SATIVA* L. Poaceae. Oats.

August 5, 1925. Local varieties of oats obtained from the experimental grounds of the Manchurian Agricultural Society, through the courtesy of B. W. Skvortzow and Wilhelm Croushul.

65087. No. 3875.

65088. No. 3876.

65089. No. 3877.

65090. *ELYMUS* sp. Poaceae. Grass.

No. 3863. August 9, 1925. A tall variety of grass with a long ryelike bearded head.

Numbers 65091 to 65101 (August 5, 1925) are seeds obtained through the courtesy of B. W. Skvortzow and Wilhelm Croushul,

65087 to 65121—Continued.

from the experimental grounds of the Manchurian Agricultural Society.

65091. *HORDEUM DISTICHON PALMELLA* Harlan. Poaceae. Two-rowed barley.

No. 3874. Originally from Czechoslovakia.

65092 to 65094. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. Six-rowed barley.

65092. No. 3872. Bearded barley, originally from Hilar.

65093. No. 3881. Bearded barley, originally from a field in Echo.

65094. No. 3893. Bearded barley, obtained by B. W. Skvortzow at Muling, July 27, 1925.

65095. *SECALE CEREALE* L. Poaceae. Rye.

No. 3873. A local variety of four-rowed rye, said to occur as a weed in wheat. This appears to be very promising.

65096 to 65121. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

65096. No. 3866. A local variety of bearded wheat with reddish brown heads.

65097. No. 3867. A local variety of straw-yellow wheat.

65098. No. 3868. A Japanese wheat originally from the Kungchuling Experiment Station.

65099. No. 3869. Awnless wheat; a local variety.

65100. No. 3870. A local variety of beardless wheat known at the station as "Mel-lurme."

65101. No. 3871. A local variety of bearded spring wheat.

65102 to 65121. August 5, 1925. This material was collected in different fields by B. W. Skvortzow.

(Numbers 65102 to 65111 were collected at Echo.)

65102. No. 3882. [Type not known.]

65103. No. 3883. Bearded wheat.

65104. No. 3884. Bearded wheat.

65105. No. 3885. Bearded wheat.

65106. No. 3886. Beardless wheat.

65107. No. 3887. Beardless wheat.

65108. No. 3888. Bearded and beardless wheat.

65109. No. 3889. Bearded and beardless wheat.

65110. No. 3890. Bearded wheat.

65111. No. 3891. Bearded wheat.

(Numbers 65112 to 65121 were collected at Muling.)

65112. No. 3892. [Type not known.]

65113. No. 3894. Beardless wheat.

65114. No. 3895. Beardless wheat.

65115. No. 3896. Beardless wheat.

65116. No. 3897. Beardless wheat.

65117. No. 3898. Beardless wheat.

65118. No. 3899. Bearded wheat.

65119. No. 3900. Bearded wheat.

65120. No. 3901. Beardless wheat.

65121. No. 3902. Bearded and beardless wheat.

65122 and 65123. QUERCUS MONGOLICA
Fisch. Fagaceae. Oak.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received October 15, 1925.

65122. No. 4037. Hsiaoling. August 28, 1925. Obtained from small trees growing on the mountain side southwest of Mr. Petroff's summer home. This oak is the hardest wood in northern Manchuria and is used for flooring, etc. The trees do not appear to grow very large.

65123. No. 4150. Mefun. September 11, 1925. Mongolian oak, the hardest of the Manchurian woods, obtained from the mountain side.

65124 and 65125. GOSSYPIMUM PERUVIANUM Cav. Malvaceae. Cotton.

From Lima, Peru. Seeds presented by C. E. Guyart, American consul in charge. Received October 1, 1925.

Full Rough Peruvian cotton. These seeds are from the north of Peru. The plant grows from 10 to 12 feet high; about 5 per cent of the bolls are brown, the rest being white. (Guyart.)

65124. Light colored.

65125. Dark colored.

65126. ACACIA sp. Mimosaceae.

From Mandelieu, Alpes Maritimes, France. Seeds presented by A. Richon, Horticulturist, Établissement Mogadette. Received October 8, 1925.

This acacia, 30 feet high, and having green leaves with very long, thin leaflets, is supposed to be a chance seedling of *Acacia decurrens*, which is nearly as hardy as *A. dealbata*. It is the best for the production of cut flowers. The time of flowering on the French Riviera is between the middle of January and the middle of February. (Richon.)

65127. PRUNUS AVIUM L. Amygdalaceae. Mazzard cherry.

From Germany. Seeds presented by Dr. W. L. Howard, acting director, University Farm, Davis, Calif. Received October 10, 1925.

Hartz Bird cherry. A tree with smooth, silvery bark; the fruits are small, almost white, and with colorless juice. Apparently this is grown only in the Black Forest, Baden, and most of the trees are wild. This type of mazzard is reputed to be very resistant to trunk diseases and troubles like gummosis and sunburn, and the roots are hardy and long-lived. Some trees are said to be 200 years old. (Howard.)

65128 to 65131. CITRUS spp. Rutaceae.

From Catania, Sicily, Italy. Plants purchased from Giardino Allegra. Received October 16, 1925. Notes from the 1924 catalogue of Giardino Allegra.

65128. CITRUS AURANTIUM L. Sour orange.

Chinotti. Fruit small, closely resembling the mandarin; quite popular for candying. Plant very productive.

65129. CITRUS BERGAMIA Risso. Bergamot.

Bergamotto. Fruit medium sized and somewhat spherical; not suited for eating, but is excellent for the essential oil which it yields, the extraction of which is an extensive industry.

65130 and 65131. CITRUS LIMONIA Osbeck. Lemon.

65130. *Spatafora.* The best table variety, very large, good shape, juicy, and of good flavor.

65131. *Spatafora Peretto.* Smaller than the preceding [No. 65130] and abundantly produced.

65132. THESPESTIA LAMPAS (Cav.) Dalz. and Gibs. Malvaceae.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, acting director, Bureau of Agriculture. Received October 16, 1925.

A bushy herbaceous plant, commonly found in the jungles of India, with palmately lobed, hairy leaves about 5 inches across and yellow bell-shaped flowers over 2 inches wide with crimson centers. The plant is a near relative of *Gossypium* and is introduced for the use of cotton specialists.

For previous introduction, see No. 54550.

65133 to 65155. AVENA spp. Poaceae. Oats.

From Dookie, Victoria, Australia. Seeds presented by the Dookie Agricultural College. Received October 19, 1925.

65133 to 65145. AVENA SATIVA L.

65133. Algerian. **65140.** Early Ripe.

65134. Ascot White. **65141.** Fulguleum.

65135. Belar. **65142.** Golden.

65136. Calcutta Cape. **65143.** Great Northern.

65137. Dookie No. 19. **65144.** Grey.

65138. Early Blonde. **65145.** Lachlan.

65139. Early.

65146. AVENA NUDA Hoejer. Naked oats.
Laurel Skinless.

65147 to 65155. AVENA SATIVA L.

65147. Mortgage Lifter. **65152.** White Horse.

65148. Mulga. **65153.** White No. 1.

65149. Sunrise. **65154.** Yarran.

65150. Sid. **65155.** Dookie No. 12.

65151. Stable King.

65156. FELICIA BERGERIANA (Spreng.) O. Hoffm. Asteraceae.

From Ness, Neston, near Birkenhead, England. Seeds presented by A. K. Bulley. Received October 14, 1925.

This is perhaps the loveliest thing I saw in South Africa. It is an annual, with indescribable blue flowers. (Bulley.)

65157. GOSSYPIMUM BARBADENSE L. Malvaceae. Cotton.

From Point à Pitre, Guadeloupe. Seeds presented by C. T. Alder, director, Station Agronomique. Received October 20, 1925.

This is the primitive cotton which grows spontaneously in Les Saintes, one of the dependencies of Guadeloupe. (Alder.)

65158. COFFEA ARABICA L. Rubiaceae. Coffee.

From Mayaguez, Porto Rico. Seeds presented by the Agricultural Experiment Station through O. F. Cook, Bureau of Plant Industry. Received October 13, 1925.

Variety *erecta*. According to Bulletin No. 30 of the Porto Rico Agricultural Experiment Station, Mayaguez, this variety came originally from the Botanic Gardens at Buitenzorg, Java, where it was said to occur from time to time in plantations of typical *Coffea arabica* and where it was considered especially suited for situations exposed to heavy winds. In Porto Rico it yielded in 1917 the maximum for Arabian coffee when treated with fertilizer. Its productivity and vigorous growth recommend it for further trial.

65159 to 65172. ORYZA SATIVA L.
Poaceae. **Rice.**

From Coimbatore, India. Seeds presented by the Government economic botanist, Agricultural College. Received October 16, 1925.

Locally grown strains.

65159. A. D. T. No. I, *Red Sirumani*.

65160. A. D. T. No. II, *White Sirumani*.

65161. A. D. T. No. III, *Kuruvai Early*.

65162. A. D. T. No. V, *Nellore Samba*.

65163. G. E. B. No. 24.

65164. *Coimbatore No. I*.

65165. *Coimbatore No. II*.

65166. *Coimbatore No. III*.

65167. T. No. 298, *Jeeraga Samba*.

65168. T. No. 414, *Basangi*.

65169. T. No. 329, *Ratnachudi*.

65170. P. S. No. 18, *Anaikomban-Tinnevely*.

65171. P. S. No. 25, *Sornavari*.

65172. P. S. No. 55, *Rasangi*.

65173 and 65174.

From Teneriffe, Canary Islands. Seeds presented by Juan Bolinaga, Directeur du Jardin de Aclimatacion de Orotava. Received October 17, 1925.

65173. *ARBUTUS CANARIENSIS* Dunham. Ericaceae.

According to a note by W. T. Swingle, of the Bureau of Plant Industry, published under No. 56529, this is a beautiful evergreen tree attaining a height of 40 feet. It is, as the name indicates, a native of the Canary Islands. The pretty rose-colored flowers, in racemes, are followed by orange-colored fruits about an inch in diameter, which are beautiful as seen against the shining-green foliage. The fruits are sweeter and more pulpy than those of the strawberry tree, *Arbutus unedo*, and are considered very good by the natives, in spite of their rather numerous seeds. The bark is smooth and very thin; the wood is rose colored and useful in cabinetmaking. This species should be used by plant breeders in hybridizing with the strawberry tree.

65174. *FUCHSIA CORYMBIFLORA* Ruiz and Pav. Onagraceae.

A handsome Peruvian fuchsia with large, serrate, taper-pointed leaves and deep-red flowers. The plant becomes tall, but requires support in order to attain full height, and is therefore adapted for pillars or pergolas in the warmest parts of the United States.

For previous introduction, see No. 65014.

65175. DOLICHOS LABLAB L.
Fabaceae. **Hyacinth bean.**

From Port of Spain, Trinidad, British West Indies. Seeds presented by H. Caracciolo. Received October 20, 1925.

Waby bean. This has been cultivated by Professor Waby, who was for a long time in charge of the Botanic Gardens of British Guiana. It is an excellent salad bean. (Caracciolo.)

65176. MUSA DAVYAE Stapf.
Musaceae.

From Pretoria, Union of South Africa. Seeds presented by the chief, division of botany. Received October 20, 1925.

A South African banana which, as described by Dr. Otto Stapf (Kew, Bulletin of Miscellaneous In-

formation for 1913, p. 102), is about 40 feet high, with erect, rigid leaves sometimes 15 feet long and up to 2 feet in width. The fruit is not edible, but the plant is said to yield a fiber used by the natives. In its native habitat, the Transvaal, this banana grows at an altitude of about 4,500 feet on the Drakenberg Range.

65177 to 65195.

From Manchuria. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received October 15, 1925.

65177. *ACTINIDIA ARGUTA* (Sieb. and Zucc.) Planch. Dilleniaceae.

No. 4086. Hsiaolin. August 29, 1925. Seeds of a large growing vine bearing fruits which are quite sweet and good; these are eaten fresh or made into jam.

For previous introduction, see No. 45241.

65178. *AMPELOPSIS BREVIPEDUNCULATA* (Maxim.) Koehne. Vitaceae.

No. 3723. Harbin. September 4, 1925. Seeds from an attractive vine which may make a good ornamental, found in the new Russian cemetery. The fruits are yellow when ripe.

For previous introduction, see No. 63332.

65179. *AQUILEGIA* sp. Ranunculaceae. **Columbine.**

No. 4149. September 13, 1925. Roots of an ornamental flowering plant, collected at the base of a small hill at Mefun.

65180. *ASPARAGUS SCHOBERIODES* Kunth. Convallariaceae. **Asparagus.**

No. 4095. Hsiaolin. August 29, 1925. Black seeds of what appears to be a very good ornamental.

65181. *CAPSIUM ANNUUM* L. Solanaceae. **Red pepper.**

No. 4120. Harbin. September 3, 1925. Seeds from a locally grown variety of large, red, bell-shaped peppers which are sweet and of good flavor.

65182. *CONVALLARIA MAJALIS* L. Convallariaceae. **Lily of the valley.**

No. 4141. Mefun. September 11, 1925. A quantity of pips from an exceptionally fine variety.

65183. *DIOSCOREA NIPPONICA* Makino. Dioscoreaceae. **Yam.**

No. 4148. Mefun. September 13, 1925. Roots of a wild species found on the mountain side. This vine is quite common here and in several other places we have visited.

65184. *FRAGARIA* sp. Rosaceae. **Strawberry.**

No. 4147. September 13, 1925. Plants growing wild near the station at Mefun.

65185. *IRIS KAEMPFERI* Sieb. Iridaceae. **Iris.**

No. 4146. Mefun. September 13, 1925. Plants of what is said to be the handsomest of the Manchurian varieties of iris, found along the edge of a bay.

65186. *IRIS* sp. Iridaceae. **Iris.**

No. 4129. Harbin. September 6, 1925. Roots collected from sand ridges across the Sungan.

65187. *MENISPERMUM DAURICUM* DC. Menispermaceae.

No. 4090. Hsiaolin. August 29, 1925. A few seeds of a vigorous growing vine with large leaves, found in a jungle.

For previous introduction, see No. 62184.

65177 to 65195—Continued.

65183. *PAEONIA OBOVATA* Maxim. Ranunculaceae. Peony.

No. 4142. Mefun. September 11, 1925. Roots of a variety reported to be a good ornamental, found at the base of hills adjacent to swamps.

65189. *PRINSEPIA SINENSIS* Oliver. Amygdalaceae.

No. 4087. Hsiaolin. August 29, 1925. Seeds of a variety which may prove useful as a hedge or ornamental; secured from a river bottom.

For previous introduction, see No. 57309.

65190. *PRUS* sp. Malaceae. Pear.

No. 4072. Harbin. August 26, 1925. Seeds of a wild pear (Chinese name, *Ba li hsian*), from fruits shipped in from Hungshankou, in the Mukden fruit region. Prof. F. C. Reimer, of the Oregon Agricultural Experiment Station, says this is by far the most valuable of all the Chinese pears in regard to blight resistance. The fruits are small to medium sized and rather long stemmed with a raised shoulder on one side. They are yellow with a pink blush on some of the fruits; the calyx is persistent.

65191. *PRUS* sp. Malaceae. Pear.

No. 4097. Hsiaolin. August 29, 1925. Seeds of a wild Chinese pear of value as a hardy stock. The fruit is hard, gritty, and exceedingly sour.

65192. *PRUS* sp. Malaceae. Pear.

No. 4122. September 3, 1925. A small light-yellow pear known as *Hsian sui li*. These seeds are from fruits purchased in the Fuchiatien market, in Harbin, where they had been shipped in from Kuangning, near Mukden.

65193. *ROSA* sp. Rosaceae. Rose.

No. 4074. Hsiaolin. August 28, 1925. Seeds of a wild rose from plants growing to the south of Mr. Petroff's summer home.

65194. *RUBUS CRATAEGIFOLIUS* BUNGE. Rosaceae.

No. 4093. Hsiaolin. August 29, 1925. An erect hardy shrub, about 7 feet high, with white flowers an inch across and small red berries. Native to northeastern Asia.

65195. *SPODIOPOGON SIBIRICUS* Trin. Poaceae. Grass.

No. 3995. Harbin. September 4, 1925. A tall, rather open-headed grass with small rhizomes similar to bamboo. Found in the new Russian cemetery.

For previous introduction, see No. 57343.

65196 to 65216. *HORDEUM* spp. Poaceae.

From Chengtu, China. Seeds presented by Frank Dickinson, Chengtu, through D. E. Stephens, superintendent, dry-farm branch station, Moro, Oreg. Received November 3, 1925.

65196 to 65200. *HORDEUM DISTICHON PALMELLA* Harlan. Two-rowed barley.

65196. No. 12. From Nanking.

65197. No. 14. From Taihsin, Shansi.

65198. No. 15. Collected near Chengtu.

65199. No. 16. From Santai, a six-day's journey from Chengtu.

65200. No. 18. From Chengtu.

65201 and 65202. *HORDEUM VULGARE COELESTE* L. Six-rowed barley.

65201. No. 5. Collected at a town about a day's journey from Chengtu.

65202. No. 19. From Tungkiang, a six-days' journey from Chengtu.

65196 to 65216—Continued.

65203. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.

No. 17. Collected near Peking, Chihli.

65204 to 65216. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

65204. No. 1. From Pachong, about a six-days' journey from Chengtu.

65205. No. 2. From Taihsin, Shansi.

65206. No. 3. From Tongkiang.

65207. No. 4. Collected on the northeast road from Chengtu.

65208. No. 6. Collected about a two-days' journey from Chengtu.

65209. No. 7. Collected at a small town near Chengtu.

65210. No. 8. Collected about a day's journey from Chengtu.

65211. No. 9. Collected at a town a day's journey from Chengtu.

65212. No. 10. Collected near Chengtu.

65213. No. 11. From Gwangfan, a 10-days' journey from Chengtu.

65214. No. 13. From the Province of Shansi.

65215. No. 20. From Peyhsieu, near Canton.

65216. No. 21. From Giachwa, a seven-days' journey from Chengtu.

65217. *MUSA TEXTILIS* Nee. Musaaceae. Abaca.

From the island of Mindanao, Philippine Islands. Seeds collected by H. T. Edwards, Bureau of Plant Industry. Received October 31, 1925.

From the plantation of the Gulaman Co., Malita, Province of Davao. August 21, 1925. This variety is known in the Philippine Islands as *Maguindanao*. (Edwards.)

65218 and 65219.

From Chene Bourg, Geneva, Switzerland. Seeds collected by David Fairchild, agricultural explorer, Allison V. Armour expedition. Received. November 11, 1925.

65218. *CAESALPINIA JAPONICA* Sieb. and Zucc. Caesalpinaceae.

October 11, 1925. A handsome, scandent shrub, bearing gorgeous yellow flowers, from H. Correvon's place. This plant had climbed into the top of a tall tree near by.

65219. *SAMBUCUS GAUTSCHII* Wettst. Caprifoliaceae.

A rank, tender shrub with large, coarse leaves and umbels of pink fruits, growing in the botanic gardens of Geneva. Native to the Himalayas.

65220. *RUBUS* sp. Rosaceae. Blackberry.

From Maidstone, England. Plants purchased from George Bunyard & Co., The Royal Nurseries. Received November 23, 1925.

British blackberry. The best variety for flavor and strongly recommended. (Bunyard, 1924-25 catalogue.)

65221. *ALYOGYNE HAKEAEFOLIA* (Giordano) Alefeld (*Fugosia hakeaeifolia* Hook.). Malvaceae.

From Perth, Western Australia. Seeds presented by W. M. Carne, botanist and plant pathologist, Western Australia Department of Agriculture. Received October 28, 1925.

An Australian shrub, of erect habit, with narrow, lobed or deeply cut leaves and large purple-lilac flowers. It is a close relative of *Gossypium*.

65222 to 65235. BERBERIS spp. Berberidaceae. Barberry.

From Kew, England. Seeds presented by Dr. A. W. Hill, Director, Royal Botanic Gardens. Received October 28, 1925.

65222. BERBERIS ACTINACANTHA Mart.

A Chilean barberry, which, as described in Edward's Botanical Register (vol. 31, pl. 55), is an evergreen bush, with peculiar five-parted spines, roundish oval, rigid, spiny dentate leaves, and deep-yellow, sweet-scented flowers. In cultivation it reaches 3 or 4 feet in height and grows freely in a rich sandy loam.

For previous introduction, see No. 44523.

65223. BERBERIS ANGULOSA Wall.

An ornamental shrub from the mountainous sections of northern India, which becomes about 4 feet high, with dark glossy green leaves and elliptical scarlet berries nearly an inch long. The autumnal coloring of the foliage is said to be very striking, and the fruits, less acid than most barberries, are edible.

For previous introduction, see No. 49616.

65224. BERBERIS ATROCARPA C. Schneid.

As described by Sargent (*Plantae Wilsonianae*, vol. 3, p. 437), this is an ornamental shrub, 3 to 5 feet tall, with leathery evergreen leaves, shining rich green above and yellowish green beneath. It is native to western Szechwan. The almost globose fruits are jet black.

For previous introduction, see No. 53629.

65225. BERBERIS BEANIANA C. Schneid.

As described by Camillo Schneider (*Plantae Wilsonianae*, vol. 3, p. 439), this barberry, collected in western Szechwan, China, is a shrub with slender yellow spines, thick papery narrow leaves, yellow flowers about a quarter of an inch wide, and purple ellipsoidal berries.

For previous introduction, see No. 58137.

65226. BERBERIS CONCINNA Hook. f.

A low spreading bush up to 3 feet in height, native to the mountainous regions of Sikkim, India. The slender spines are three parted, and the semievergreen obovate leaves are an inch or less in length. The flowers are bright yellow, and the berries are red.

For previous introduction, see No. 58101.

65227 and 65228. BERBERIS CONSIMILIS C. Schneid.

A densely branched hardy shrub about 5 feet high, native to western Szechwan, China, with yellowish spines about a third of an inch long, leaves up to 1½ inches long, yellow flowers, and dark purplish elliptic fruits about three-fourths of an inch long.

65227. No. 1.

65228. No. 2.

65229. BERBERIS EDGEWORTHIANA C. Schneid.

A barberry from the subtropical Himalayas which, as described in the Bulletin Herbar Boissier (ser. 2, vol. 8, p. 263), is a small shrub with two-parted yellowish spines less than half an inch long, narrowly elliptic leaves about the same length as the spines, and dense clusters of small flowers.

For previous introduction, see No. 52930.

65222 to 65235—Continued.

65230. BERBERIS FRANCISCI-FERDINANDI C. Schneid.

The drooping panicles of scarlet berries borne by this Chinese barberry are very handsome, according to Alfred Rehder (*Bailey, Standard Cyclopedia of Horticulture*, vol. 1, p. 490). It is a shrub up to 10 feet high, with red-brown branches, long spines, bright-green papery leaves 1 or 2 inches long, and narrow panicles of yellow flowers.

For previous introduction, see No. 58104.

65231. BERBERIS GUIMPETI Koch and Bouche.

A hardy, graceful barberry from the Caucasus. It is about 5 feet high, with slender branches, grayish green, narrowly oblong leaves, and pendulous clusters of ovoid, purple berries.

For previous introduction, see No. 52876.

65232. BERBERIS HOOKERI Lem.

An evergreen barberry from the Himalayas, which, as described by W. J. Bean (*Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 243), is a dense shrub 3 to 5 feet high, with usually three-parted spines, dark-green, leathery, spiny-margined leaves, and cylindrical black-purple berries which often persist on the shrub until spring.

For previous introduction, see No. 53635.

65233. BERBERIS NERVOSA Pursh.

A dwarf shrubby barberry, by some authorities referred to *Mahonia*; it is native to western North America. The leafstalks are up to 4 inches long, and the pale-green, spiny-toothed, narrow leaflets are 1 to 3 inches in length. The oblong berries are blue.

65234. BERBERIS ORTHOBOTRYS Bienert.

A shrubby barberry from Kashmir, India, which, as described by Schneider (*Illustriertes Handbuch der Laubholzkunde*, vol. 1, p. 3100), attains a height of 3 feet, with narrowly obovate leaves and elongated berries.

For previous introduction, see No. 53637.

65235. BERBERIS UMBELLATA Wall.

A hardy subevergreen Himalayan shrub about 3 feet high, with narrow leaves slightly glaucous beneath, and umbellike racemes of yellow flowers.

For previous introduction, see No. 53645.

65236. COFFEA ARABICA L. Rubiaceae. Coffee.

From Porto Rico. Seeds obtained through O. F. Cook, Bureau of Plant Industry. Received November 7, 1925.

In Bulletin No. 30, Porto Rico Agricultural Experiment Station, entitled, "Coffee Varieties in Porto Rico," T. B. McClelland states that *Bourbon* is an early variety, nearly half of the crop being harvested by the end of September. In yield it has averaged, since 1918, 1.8 liters of cherries per tree. It is said to have a very fine aroma, and one authority states that it is grown on the richest soils on one-fifth of the plantations of Sao Paulo, Brazil.

65237 to 65240. BERBERIS spp. Berberidaceae. Barberry.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, Regius Keeper, Royal Botanic Gardens. Received November 4, 1925.

65237 to 65240—Continued.

65237. *BERBERIS CRETICA* L.

A low deciduous shrub, sometimes prostrate in habit, indigenous to southeastern Europe. The very narrow leaves, usually entire, are about half an inch long, the flowers are yellow, and the globular berries are almost black.

For previous introduction, see No. 35162.

65238. *BERBERIS HETEROPODA* Schrenk.

As described by Alfred Rehder (Bailey, Standard Cyclopedia of Horticulture, vol. 1), this is a handsome spreading shrub 3 to 6 feet high, with spines, when present, often 2 inches long; and broadly oval, pale blue-green entire leaves an inch or two in length. The fragrant orange flowers are in five-flowered to seven-flowered racemes, and the dark-blue berries are covered with a glaucous bloom. Native to Turkestan.

For previous introduction, see No. 25567.

65239. *BERBERIS PURPUREA* EGBERTII Hort.65240. *BERBERIS STENOPHYLLA* Lindl.

A hybrid between *Berberis darwinii* and *B. empetrifolia* which first appeared, according to Bean (Trees and Shrubs Hardy in the British Isles, vol. 1), in the nursery of Fisher and Holmes, near Sheffield, England, several years ago. As described by Bean it is an evergreen bush about 10 feet high, which forms a dense thicket of slender interlacing stems. The small deep-green leaves are spine tipped, and the small golden yellow flowers are profusely borne in small clusters. The globular fruits are covered with a blue-white bloom.

For previous introduction, see No. 62756.

65241 to 65243.

From Kansu, China. Seeds collected by J. F. Rock, Arnold Arboretum, Jamaica Plain, Mass. Received November 9, 1925. Notes by Mr. Rock.

65241. *IRIS* sp. Iridaceae.

Collected north of Titao, August 30, 1925. A bushy plant, 1 to 2 feet high, found in the meadows along the banks of the Tao River, near Choui, to the Kikonor. It is a very hardy plant and thrives best in well-drained, moist loamy soil. The flowers, of which there are many to a clump, are 3 inches or more in diameter, and white, bright blue, or purplish.

65242. *PRINSEPIA* sp. Amygdalaceae.

August 30, 1925. *Ma Teng Ko*. A spiny shrub, 5 feet in height, with long semierect branches, found in the Tao River Valley, between Taichow and Titao, and on the Yellow River, near Lanchowfu. The scarlet pendent drupes are edible, having a peppery flavor. It is best suited to well-drained loess soil along river banks and in sandy plains.

65243. *AILANTHUS* sp. Simaroubaceae.

September, 1925. This tree, 40 feet in height, is found on the loess plains to the northwest of Lanchow, at Sincheng, on the Yellow River, at an altitude of 5,600 feet, where the winter temperature is said to go to -10° F. The bark is light brown, the leaves and leaflets large, and the fruits, produced in large, drooping racemes, are pale yellow when mature. This tree is often planted near temples.

65244. *CORYLUS* (*SIEBOLDIANA*) *MANDSHURICA* (Maxim.) C. Schneid. Betulaceae. Hazelnut.

From Harbin, Manchuria. Plants collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 11, 1925.

No. 4249. Hsiaoliu. September 30, 1925. *Mao cheu tze* (hairy hazelnut). (Dorsett.)

65245. *RUBUS* sp. Rosaceae.

From Exeter, England. Plants purchased from Robert Veitch & Son, The Royal Nurseries. Received November 13, 1925.

The Veitchberry, as described in the 1925 catalog of Laxton Bros. (Bedford, England), is the best of all their berries. The fruits are the color of a well-ripened black mulberry and about twice the size of an ordinary blackberry. The flavor is delicious, resembling that of the blackberry and raspberry combined. It is self-fertile and sets all of its fruits. The bush is semierect, a strong grower, and needs only a stake to support it. Its ripening season is after that of the raspberries and before that of the blackberries.

65246 to 65269.

From Darjiling, India. Seeds presented by G. H. Cave, Curator, Lloyd Botanic Garden. Received October 20, 1925.

65246. *ACACIA CATECHU* (L. f.) Willd. Mimosaceae.

The pale-yellow gum obtained from this acacia has very strong adhesive powers and is considered a better substitute for gum arabic than that from *Acacia arabica*, according to Watt (Dictionary of the Economic Products of India vol. 1). The tree is found wild in parts of India and Burma, where it sometimes becomes 70 feet high, though usually smaller. The leaves are very finely pinnate, and the white or pale-yellow flowers are in spikes.

For previous introduction, see No. 61593.

65247. *ALSTONIA SCHOLARIS* (L.) R. Br. Apocynaceae.

A Himalayan tree, which, as described by Watt (Dictionary of the Economic Products of India, vol. 1, p. 197), is a tall evergreen tree, widely cultivated throughout India for ornamental purposes. The tree yields an inferior quality of gutta-percha, and from the bark is obtained a bitter principle known as ditain, which has a medicinal effect similar to that of quinine.

65248. *ALSTONIA VENENATA* R. Br. Apocynaceae.

Unlike the preceding, *Alstonia scholaris* (No. 65247), this is described by Hooker (Flora of British India, vol. 3, p. 642) as a shrub 6 to 8 feet high, with narrow leaves in whorls of four to six.

Since a number of the *Alstonias* yield gutta-percha, this Himalayan species will be tested as a possible source of that substance.

65249. *DRIMYCARPUS RACEMOSUS* (Roxb.) Hook. f. Anacardiaceae.

A lofty Himalayan tree with large, shining-green leathery leaves sometimes a foot long and red fruits an inch in diameter, produced in axillary clusters. This note is from Hooker's Flora of British India (vol. 2, p. 36), which gives the distribution as the mountains of Sikkim and Bhutan, India.

65250. *EDGEWORTHIA GARDNERI* (Wall.) Meisn. Thymelaeaceae.

A handsome shrub native to the Himalayas, whose branches are covered with dense clusters of yellow sweet-scented flowers before the leaves appear. The strong tough fiber which is obtained from the long straight twigs seems very promising as paper-making material, according to Watt (Dictionary of the Economic Products of India, vol. 3, p. 202). The finest qualities of Nepal paper are made from this plant, according to the same authority.

For previous introduction, see No. 57887

65246 to 65269—Continued.

65251. *ELAEOCARPUS SIKKIMENSIS* Masters. Elaeocarpaceae.

A handsome evergreen tree, native to Sikkim, India, with erect racemes of small white flowers. The sharp-pointed serrate leaves are about 8 inches long.

For previous introduction, see No. 61603.

65252. *ERIOBOTRYA HOOKERIANA* Decaisne. Malaceae.

According to Hooker (Flora of British India, vol. 2, p. 371), this is a small stout-branched tree with thick, leathery, oblong, sharply toothed leaves up to a foot in length, large panicles of small white flowers, and egg-shaped yellow fruits about three-fourths of an inch long. It is a native of the eastern Himalayas at altitudes of 6,500 to 8,000 feet.

For previous introduction, see No. 55679.

65253. *GARCINIA STIPULATA* T. Anders. Clusiaceae.

A wild relative of the mangosteen (*Garcinia mangostana*) which, as described by Hooker (Flora of British India, vol. 1, p. 267), is a tree about 60 feet high, with dark-green, thick-leathery, oblong leaves 6 to 12 inches long and smooth oblong fruits about a quarter of an inch long. The tree is a native to moist subtropical forests of the eastern Himalayas.

65254. *GAULTHERIA FRAGRANTISSIMA* Wall. Ericaceae.

A very fragrant evergreen shrub or small tree, found in the mountains of India from Nepal eastward to Bhutan. In summer it is loaded with white or pinkish flowers which are followed by beautiful racemes of blue-purple fruits.

For previous introduction, see No. 61746.

65255. *HYPERICUM PATULUM* Thunb. Hypericaceae.

An ornamental, spreading, evergreen Japanese shrub from 1 to 3 feet in height, with red stems and branches. It has bright-green leaves and numerous large yellow flowers, about 2 inches across, borne in terminal few-flowered cymes.

For previous introduction, see No. 47695.

65256. *ILEX INSIGNIS* Hook. f. Aquifoliaceae.

An attractive holly from the Sikkim Himalayas, where it grows at an altitude of 7,000 feet. It forms a small tree or shrub with thick, grooved branches which are purplish when young. The dark-green leathery leaves are pinnately lobed, with the lobes spine tipped and alternately raised and depressed, so that there appears to be a double row of spiny lobes on each side. This holly has proved hardy in Ireland and may be suited for growing in the Gulf States and southern California.

For previous introduction, see No. 60646.

65257. *INDIGOFERA DOSUA TOMENTOSA* Baker. Fabaceae.

A low, shrubby, hairy indigo from the temperate parts of the Himalayas, where it grows at altitudes of 1,000 to 5,000 feet. The dull-green compound leaves, 9 inches in length, and the long racemes of bright-red flowers, make this a decidedly ornamental species.

For previous introduction, see No. 60647.

65258. *JASMINUM DISPERMUM* Wall. Oleaceae.

This Himalayan jasmine, as described by Hooker (Flora of British India, vol. 3, p. 602), is a climbing shrub common in temperate regions of the Himalayas at altitudes of 2,000 to 8,000 feet. It bears very numerous white flowers in axillary cymes and terminal panicles sometimes containing a hundred flowers.

For previous introduction, see No. 55684.

65246 to 65269—Continued.

65259. *JASMINUM UNDULATUM* (L.) Ker. Oleaceae.

A climbing Asiatic jasmine with slender hairy branches, opposite leaves about 2 inches long, and white long-tubed flowers in terminal clusters of 6 to 10 flowers. Native to the Himalayas.

65260. *LEUCOSCEPTRUM CANUM* J. E. Smith. Menthaceae.

A stout-branched, densely hairy tree, commonly about 30 feet high, with large, narrowly ovate leaves, silvery hairy beneath and at times a foot long. The small white or pinkish flowers are in spikes. Native to temperate regions in the Himalayas.

For previous introduction, see No. 61609.

65261. *LEYCESTERIA FORMOSA* Wall. Caprifoliaceae.

A handsome ornamental bush, about 6 feet high, closely allied to the honeysuckles. The purplish flowers are in drooping spikes or spike-like racemes, and the dark-red berries are sometimes eaten by birds. It is native to the cooler sections of the Himalayas.

For previous introduction, see No. 52864.

65262. *LEYCESTERIA GLAUCOPHYLLA* (Hook. f. and Thoms.) C. B. Clarke. Caprifoliaceae.

A slender plant, closely allied to the honeysuckles, with pale-green leaves and bearing, in the early winter, a profusion of pink flowers, in short axillary spikes. It is native to the subtropical Himalayas at an altitude of 5,000 feet.

For previous introduction, see No. 61611.

65263. *PERIS FORMOSA* (Wall.) D. Don. Ericaceae.

A Himalayan bush, 15 to 20 feet high, which bears large terminal clusters of white flowers resembling those of the lily of the valley. The glossy green foliage, which persists throughout the winter, makes a very effective background for the early blooming flowers.

For previous introduction, see No. 55909.

65264. *PRUNUS CERASOIDES* D. Don. (*P. puddum* Roxb.). Amygdalaceae.

The pendulous flowers of this species are campanulate and deep rosy red. They are said to appear before the foliage, which is a bright glossy green. The tree, native to the highlands of Burma, is said to endure some frost in its native country.

For previous introduction, see No. 61619.

65265. *ROSA MACROPHYLLA* Lindl. Rosaceae. Rose.

This Himalayan rose, as described by Brandis (Forest Flora of India, p. 203), is an erect, often unarmed shrub, with large red flowers 2 inches or less in width, and large soft edible fruits an inch long. In its native home this rose is found at an altitude of 10,000 feet, and plants introduced into England have proved hardy in that country.

For previous introduction, see No. 63368.

65266. *RUBUS ELLIPTICUS* J. E. Smith. Rosaceae. Raspberry.

A Himalayan raspberry, described as follows by J. F. Rock, of the Bureau of Plant Industry, under No. 55499: A very stout shrub which, especially when young, is densely covered with long, red, almost hairlike spines. The flowers are white and the deep-yellow, almost orange, very juicy, acid fruits are collected by the hill tribes and brought to the markets; the fruits ripen earlier on the mountains than in the valley. The shrub is found at altitudes of 6,000 to 7,000 feet.

65246 to 65269—Continued.

65267. *RUBUS ROSAEFOLIUS* J. E. Smith. Rosaceae.

A Philippine raspberry, which, as described by Brown (Wild Food Plants of the Philippines, p. 66), is a spiny shrub, rarely over 3 feet high, common in the mountains of Luzon, the Bisaya Islands, and Mindanao, Philippine Islands. The red fruits, borne singly or in clusters, are about 1.5 centimeters (half an inch) in diameter; they are juicy, but rather insipid.

For previous introduction, see No. 56274.

65268. *SACRATJA FASCICULATA* Wall. Dilleniaceae.

According to Hooker (Flora of British India, vol. 1, p. 287), this is a bush or small tree about 30 feet high, native to the eastern subtropical regions of the Himalayas at altitudes of 2,000 to 4,000 feet. The long narrow leaves are very hairy, especially beneath; and the flowers, which are first white, then pink, are borne in red-branched cymes.

For previous introduction, see No. 55702.

65269. *SENECIO UNCINELLUS* DC. (*S. densiflorus* Wall.). Asteraceae.

According to Hooker (Flora of British India, vol. 3, p. 355), the branches and leaves of this shrubby composite are covered with gray cottony wool. The narrowly oval leaves are sometimes 9 inches long and 3 inches wide, and the small yellow flowers are in dense axillary and terminal clusters. Native to the central and western Himalayas.

For previous introduction, see No. 47792.

65270 and 65271.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received October 20, 1925.

65270. *HELICIA ERRATICA* Hook. f. Proteaceae.

As described by Hooker (Flora of British India, vol. 5, p. 189), this is a small tree with shining green leathery leaves about 6 inches long, and pale yellowish flowers an inch across, borne in racemes 6 to 9 inches in length. The fruit is a hard nut an inch and a half in diameter. This tree is common in the mountains of Sikkim, India.

65271. *PINUS KHASTA* Royle. Pinaceae.

Although usually a small tree, this southern Asiatic pine sometimes attains a height of 200 feet and a diameter of over 3 feet in the mountains of Burma, according to Watt (Dictionary of the Economic Products of India, vol. 6, pt. 1, p. 241). A note in the India Forest Bulletin, Delhi, p. 57, 1923, states that the bark of this pine yields a large amount of tannin which makes good leather, with the further observation that it should be possible to harvest the bark without injury to the tree.

65272. *CEDRELA FISSILIS* Vell. Meliaceae.

From Tucuman, Argentina. Seeds presented by Dr. W. E. Cross, Director, Estacion Experimental Agricola. Received October 27, 1925.

A tall ornamental tree, native to Brazil and Paraguay, with pinnate leaves 10 to 15 inches long. Because of its handsome foliage, it should be suitable for growing as an avenue tree in the warmer parts of the United States.

For previous introduction, see No. 43417.

65273 to 65294.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received October 28, 1925.

65273 to 65294—Continued.

65273. *ACANTHOPANAX SENTICOSUM* (Rupr.) Harms. Araliaceae.

No. 4072. Hsiao lin. August 29, 1925. A rather low-growing, thorny-stemmed plant obtained in the woods on the mountain side near Mr. Petroff's summer home. This may prove to be of value in ornamental plantings and for use in cross-pollination work with some of the large species.

For previous introduction, see No. 57274.

65274. *CHLORIS VIRGATA* Swartz. Poaceae. Grass.

No. 4125. Harbin. September 6, 1925. The Chinese call this variety "brush grass." We collected it in the Ming Tombs section, where it is well distributed. The seed heads resemble Rhodes grass.

65275. *CIMICIFUGA* sp. Ranunculaceae.

No. 4167. Mefun. September 11, 1925. A tall-growing herbaceous plant with small fragrant flowers in long spikes.

65276. *ERAGROSTIS* sp. Poaceae.

No. 4127. Harbin. September 6, 1925. A fine seed-headed grass secured across the Sungan River.

65277. *ERAGROSTIS* sp. Poaceae.

No. 4128. Harbin. September 6, 1925. A fine, long, seed-headed grass.

65278. *FALCATA JAPONICA* Oliver. Fabaceae.

No. 4222. Hsiao lin. September 13, 1925.

For previous introduction, see No. 21899.

65279. *JUGLANS MANDSHURICA* Maxim. Juglandaceae.

No. 4133. Harbin. September 7, 1925. Presented by B. W. Skvortzow, who obtained the seed from a tree growing in his garden. In general appearance and flavor the nut resembles the butternut (*Juglans cinerea*).

For previous introduction, see No. 56405.

65280. *LESPEDEZA STIPULACEA* Maxim. Fabaceae.

No. 3865. Harbin. September 8, 1925. A low-growing plant with small, pea-shaped, pink to purple flowers, which is quite abundant in the new Russian cemetery.

For previous introduction, see No. 59379.

65281. *LILIUM DAURICUM* Ker. Liliaceae. Candlestick lily.

No. 4131. Harbin. September 7, 1925. From plants about 3 feet in height, growing in B. W. Skvortzow's garden.

For previous introduction, see No. 58553.

65282. *LONICERA* sp. Caprifoliaceae. Honeysuckle.

No. 4234. Ertsingientze. September 16, 1925.

65283. *MEDICAGO RUTHENICA* (L.) Trautv. Fabaceae.

No. 4055. Harbin. September 3, 1925. A yellow bronze-colored, flowering variety.

For previous introduction, see No. 40749.

65284. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

No. 4130. Harbin. September 7, 1925. A large-fruited apricot, presented by B. W. Skvortzow.

65285. *PYRUS* sp. Malaceae. Pear.

No. 4232. Ertsingientze. September 16, 1925. Wild pears from the mountain sides.

65273 to 65294—Continued.

65286 and 65287. *SCHIZANDRA CHINENSIS* (Turcz.) Baill. Magnoliaceae.

For previous introduction, see No. 57314.

65286. No. 4098. Hsiaolin. August 29, 1925.

65287. No. 4160. Mefun. September 11, 1925. A vine found on the mountain side, which is very handsome with its masses of compact bunches of small bright-red berries.

65288. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

No. 4132. Harbin. September 7, 1925. A light-yellow soy bean which is the result of eight years of selection work at the experiment station.

65289. *SYNTHESISMA ISCHAEMUM* (Schreb.) Nash. Poaceae. Grass.

No. 4126. September 6, 1925. A chicken-foot grass collected in the Sungan River bottom across from Harbin.

65290. *VACCINIUM VITIS-IDAEA* L. Vacciniaceae.

No. 4137. Harbin. September 9, 1925. Small, bright-red fruits resembling cranberries, but round and not so large, bought in the market where they were said to have come from the Eastern Hills. The flesh is white and the seeds, few in a fruit, are very small and of a yellowish color.

For previous introduction, see No. 50344.

65291. *VICIA AMOENA* Fisch. Fabaceae. Vetch.

No. 3840. Harbin. September 4, 1925.

For previous introduction and description, see No. 65085.

65292. *VICIA JAPONICA* A. Gray. Fabaceae. Vetch.

No. 4134. Harbin. September 8, 1925. The leaves of this are broader and not so coarse as those of the preceding [No. 65291].

65293. *VICIA JAPONICA* A. Gray. Fabaceae. Vetch.

No. 4229. Harbin. September 15, 1925. This is one of the best fruiting wild varieties. There are about 15 pods in a cluster, and because the pods do not fly open like many of the other varieties, they could be harvested to good advantage.

65294. *ASTRAGALUS MELILOTOIDES* Pall. Fabaceae.

No. 4070. Harbin. September 8, 1925. A small, narrow-leaved, upright growing variety with lavender flowers; collected in the new Russian cemetery.

65295. *CROTALARIA STRIATA* DC. Fabaceae.

From Eala, Belgian Congo, Africa. Seeds presented by V. Goossens, Directeur du Jardin Botanique d'Eala. Received October 28, 1925.

An ornamental shrubby leguminous plant, described in Curtis's Botanical Magazine (pl. 3200) as low growing, with rounded green branches and elongated terminal clusters of drooping yellow flowers, the petals striped with deep orange-brown. It is to be tested as a cover plant in the southern United States.

For previous introduction, see No. 52531.

65296. *ARACHIS NAMBYQUARAE* Hoehne. Fabaceae.

From Sao Paulo, Brazil. Seeds presented by H. Hoehne, Chefe da Seção de Botânica do Museu Paulista. Received November 6, 1925.

A Brazilian relative of the peanut, which according to Hoehne (*Historia Natural Botanica*, Matto Grosso, Brazil, pt. 12), is a rather shrubby, much-branched, prostrate or ascending plant. The pod is 2 to 3 inches long, with usually two seeds which are edible and very oily.

For previous introduction, see No. 62099.

65297. *ALEURITES TRISPERMA* Blanco. Euphorbiaceae. Banucalag.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, acting director, Bureau of Agriculture. Received November 12, 1925.

This Philippine relative of the tung-oil tree of China (*Aleurites fordii*), as described in Bulletin No. 20 of the Bureau of Forestry of the Philippine Department of Agriculture, is a tree 30 to 50 feet in height, with heart-shaped leaves and rounded three-angled fruits about 2 inches in diameter. Each of the three cells of the fruit usually contains one seed; this is flattened circular, with a brittle shell and a white embryo surrounded by a large oily endosperm. This oil, known as bagilumbang oil, is of a light amber color somewhat paler than the commercial grades of tung, or lumbang, oil as it appears in the market. It is said to be so closely allied to tung oil as to be almost indistinguishable. The shells are much more easily broken than those of the lumbang (*A. moluccana*), and the kernel is not so difficult to separate from the shell.

For previous introduction, see No. 47942.

65298 to 65308.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters Van Leeuwen, Director. Botanic Garden. Received November 3, 1925.

65298. *CLITORIA HETEROPHYLLA* Lam. Fabaceae.

As described by Lamarek (*Encyclopédie Méthodique Botanique*, vol. 2, p. 51), this East Indian plant is a climbing perennial with thread-like stems and compound leaves consisting of five small green leaflets which vary in form from orbicular to linear, borne on a winged axis. The blue flowers are borne singly in the leaf axils.

For previous introduction, see No. 22748.

65299. *CROTALARIA VALETONII* Backer. Fabaceae.

An East Indian plant described by C. A. Backer (*Bulletin du Jardin Botanique, Buitenzorg*, vol. 2, p. 324) as an erect, densely branched herb, 1 to 4 feet high, with simple hairy leaves and yellow flowers in terminal, 5-flowered to 12-flowered racemes.

65300. *CROTALARIA VERRUCOSA* L. Fabaceae.

A much-branched leguminous herb, about 2 feet high, found throughout the Tropics of both hemispheres. The white and blue flowers are in many-flowered compact racemes.

For previous introduction, see No. 51119.

65301. *CROTALARIA VITELLINA* Ker. Fabaceae.

A Brazilian shrub, which, as described in the Botanical Register (vol. 6, pl. 447), is about 3 feet high, of slender habit, with oval-oblong leaflets, gray beneath, and erect terminal racemes of reddish yellow flowers. The oblong pods, scarcely an inch long, are covered with velvety pubescence.

65302. *CYMOPOGON CITRATUS* (DC.) Stapf. (*Andropogon citratus* DC.). Poaceae.

A large, coarse grass with long, narrow leaves 4 or 5 feet in length, native to eastern Asia. The oil from this and a number of related species is the citronella oil of commerce, used in perfumes and as a mosquito deterrent.

For previous introduction, see No. 35132.

65298 to 65308—Continued.

65303. *MEIBOMIA STIPULACEA* (DC.) Kuntze
(*Desmodium stipulaceum* DC.). Fabaceae.

An erect leguminous plant, 2 to 3 feet high, with oval-oblong leaflets and simple racemes of small pale-blue flowers. Native to tropical America.

65304. *PENNISETUM ORIENTALE TRIFLORUM*
(Nees) Stapf. Poaceae.

A perennial erect or ascending grass, 2 to 6 feet high, with a stout, creeping rootstock, and very narrow leaves 1 to 2 feet long. Native to the Himalayas.

For previous introduction, see No. 54553.

65305. *RHAPHIS PARVIFLORA* (R. Br.) Chase. Poaceae.

A tall-growing coarse grass, about 3 feet high, with deep roots. The narrow, long-pointed leaves are 6 to 12 inches long. Native to India and distributed throughout eastern Asia; found also in Australia and South Africa.

65306. *SESBANIA PAULENSIS* Barb.-Rodr. Fabaceae.

A leguminous shrub described by Rodrigues (Plantas Novas Cultivadas Jardim Botânico do Rio de Janeiro, vol. 2, p. 13) as of erect habit, about 10 feet high, with narrow, angular branches, finely pinnate leaves, and handsome yellow flowers in few-flowered racemes.

65307. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

Locally grown seeds.

65309. *VIGNA MEMBRANACEA* A. Rich. Fabaceae.

An Abyssinian relative of the cowpea described by A. Richard (Tentamen Florae Abyssinicae, vol. 1, p. 219) as having a herbaceous stem, membranous leaflets, and violet flowers. According to Richard, it grows in humid places, and the native Abyssinian name is *ent-esterot*.

65309. *COLOCASIA ESCULENTA* (L.) Schott. Araceae. Dasheen.

From Harbin, Manchuria. Tubers collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 20, 1925.

No. 4446. October 5, 1925. Procured in the market where they were shipped in from Cheff. They are medium-sized and rather attractive in appearance. (Dorsett.)

65310 to 65313.

From Tangar, Kansu, China. Seeds collected by J. F. Rock, Arnold Arboretum, Jamaica Plain, Mass. Received November 19, 1925. Notes by Mr. Rock.

65310. *BETULA* sp. Betulaceae. Birch.

No. 13283. Kokonor. September 29, 1925. A tree 20 to 30 feet in height, found with willows, spruces, etc., on the rocky valley slopes, and forming about 30 per cent of all the vegetation in the Rako Gorge, at an altitude of 11,000 feet. The bark, silvery gray to bluish, is curled in bands 4 inches in width, the branches are ascending, and the crown is oblong pointed. The deltoid leaves 1 inch broad and long are irregularly serrate.

65311. *PICEA* sp. Pinaceae. Spruce.

No. 13281. September 29, 1925. A tree, 50 to 80 feet in height, with long, descending branches, often assuming the shape of a wind-swept Monterey cypress, and sometimes branching from the base. It is a handsome tree with its deep-green needles, the cones being 3 to 4 inches long, an inch in diameter, and greenish drab

65310 to 65313—Continued.

colored. This species occurs singly in the ravines of the Kokonor Mountains, at altitudes of 11,000 to 12,000 feet, or associated together with *Betula* sp., No. 13283 [No. 65310].

65312. *PICEA* sp. Pinaceae. Spruce.

No. 13282. September, 1925. A tree 40 to 50 feet high, which occurs in pure stands near Bamba, southeast of the Kokonor, at an altitude of 8,500 feet. The trunk of this tree is straight, the bark gray and scaly, resembling that of *Picea meyeri*, and the needles are glaucous. No large trees were observed, as they are rapidly cut down.

65313. *RHODODENDRON* sp. Ericaceae. Rhododendron.

No. 13278. Rako Gorge, Kokonor. September 28, 1925. A shrub 5 to 8 feet in height, which occurs in remote valleys of the Kokonor region, at an altitude from 10,000 to 11,000 feet. The leaves are oval, pale fawn-colored beneath, and 3 to 4 inches long; the flowers are whitish to pink.

65314. *ABELIA SCHUMANNII* (Graebn.) Rehder. Caprifoliaceae.

From Jamaica Plain, Mass. Plant presented by Dr. C. S. Sargent, Arnold Arboretum. Received November 24, 1925.

This handsome Chinese bush is described in The Garden (vol. 89, p. 596) as follows: It is evergreen, of somewhat spreading habit, and the young branches are pendulous with the weight of the flowers. The latter resemble small pentstemon flowers, and are a beautiful pale mauve with a white throat, a pale orange blotch, and are about an inch long. In England the flowering period commences in June and lasts for several weeks.

65315 to 65320.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters Van Leeuwen, Director, Botanic Garden. Received November 11, 1925.

65315. *BRADBURYA PUBESCENS* (Benth.) Kuntze
(*Centrosema pubescens* Benth.). Fabaceae.

A slender leguminous vine, up to about 6 feet in length, with trifoliate leaves and oval leaflets, the latter about 2 inches long, and white or yellowish small flowers. Native to tropical America.

For previous introduction, see No. 32780.

65316. *CENCHRUS VIRIDIS* Spreng. Poaceae. Grass.

An erect or ascending tropical American grass, usually about 2 feet high, branched or simple, with flat leaves up to 15 inches long. The spikes, usually dense and cylindrical, are 3 or 4 inches long.

65317. *LEPTOCHLOA CHINENSIS* (L.) Nees. Grass.

An erect or ascending annual grass, 2 to 4 feet high, with leaves sometimes a foot and a half long. Native to eastern Asia and found also in Australia.

65318. *LEPTOCHLOA FUSCA* (L.) Kunth. Poaceae. Grass.

A tall, perennial, tufted grass, 3 to 5 feet tall, with long, narrow leaves. Although native to India, it is found also in Egypt and Australia (in the last-named country in low wet ground).

65319. *LIMNOCHARIS FLAVA* (L.) Buch. Alismaceae.

A perennial aquatic plant, native to the West Indies and South America, with erect, angled stems over a foot high in the flowering period; narrowly oval or broadly oval leaves, and yellow flowers in umbellike clusters.

65315 to 65320—Continued.65320. *SMITHIA JAVANICA* Benth. Fabaceae.

An East Indian leguminous plant, described by Bentham (Miquel, *Plantae Junghuhnianae*, p. 211) as a prostrate or diffuse herb, with compound leaves having five to seven pairs of oblong leaflets about half an inch long and small yellow flowers.

65321 to 65330. ORYZA SATIVA L. Poaceae. Rice.

From Assam, India. Seeds presented by M. Ganguli, botanical assistant, Karimganj Farm. Received November 16, 1925.

Locally grown strains.

65321. A 1, *Lal Ans*.65322. A 2, *Kasuloth*.65323. A 3, *Basmati*.65324. A 10, *Katakata*.65325. A 23/1, *C. P. Ans*.65326. A 24/1, *Basanta Bahar*.65327. D 138/2, *Tepi Durmai*.65328. D 138/6, *Tepi Dumai*.65329. M 36/30, *Baurash Hurali*.65330. M 142, *Koi Hurali*.**65331 and 65332. CROTALARIA spp. Fabaceae.**

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet, Jardin d'Essais de Kisantu. Received November 16, 1925.

65331. *CROTALARIA CYLINDROCARPA* DC.

A tropical African leguminous plant described by J. G. Baker (Oliver, *Flora of Tropical Africa*, vol. 2, p. 40) as an erect, subscrubby herb about 2 feet high, with pale-green elliptic leaflets and medium-sized flowers.

65332. *CROTALARIA HILDEBRANDTII* Vatke.

As described by W. Vatke (*Oesterreichische Botanische Zeitschrift*, vol. 29, p. 220) this is a densely bushy perennial, with broadly oval leaflets. Native to the Belgian Congo.

65333. VIBURNUM LOBOPHYLLUM Graebn. Caprifoliaceae.

From Kew, England. Seeds presented by Dr. A. W. Hill, Director, Royal Botanic Gardens. Received November 18, 1925.

An ornamental shrub from western China with coarsely toothed, rounded leaves, white flowers, and round bright-red berries about a third of an inch in diameter. George M. Darrow, of the Bureau of Plant Industry, states in his letter of October 12, 1925, that this is the only large-fruited species, so far as he knows, which has acid fruit without bitterness.

For previous introduction, see No. 53748.

65334 and 65335. CARISSA CARANDAS L. Apocynaceae. Karanda.

From the Philippine Islands. Seeds presented by P. J. Wester, Ballston, Va. Received November 24, 1925.

65334. *Karanda*. An evergreen spiny shrub or small tree, with dark-green spiny-tipped leaves, fragrant white flowers in small clusters, and reddish acid fruits about an inch in diameter. In India, where the plant is native, and also in the Philippines, where it has recently been introduced, the fruits are used as pickles when green and for jelly when ripe.

65334 and 65335—Continued

65335. *Perunkila*. A form with sweeter fruits than the *Karanda*, cultivated in the Philippines. According to Mr. Wester, it is one of the best small fruits introduced into the Philippines.

65336. GARCINIA VENULOSA (Blanco) Choisy. Clusiaceae.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, acting director, Bureau of Agriculture. Received November 28, 1925.

A wild Philippine relative of the mangosteen (*Garcinia mangostana*), which, as described by P. J. Wester (*Food Plants of the Philippines*, p. 105), is a tree about 45 feet high, with large, oblong, leathery leaves and roundish, flattened, green fruits about 2 inches in diameter, with acid flesh inclosing several flat seeds. The Filipinos eat the fruits with fish, and Mr. Wester believes that they would probably make good preserves.

For previous introduction, see No. 32264.

65337 to 65436. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceae. Soy bean.

From Harbin, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 27, 1925.

October 13, 1925. Seeds sent in the pods with a portion of the vine attached. These varieties were grown at the botanical garden of the Manchurian Agricultural Research Society of Harbin, and were obtained largely through the courtesy of B. W. Skvortzow and N. Glowkhoff, the superintendent. The botanical-garden number is given for each variety.

65337. No. 4465. No. 3. A large, creamy yellow, almost round bean with a rather large, black eye.

65338. No. 4466. No. 4. A small, creamy yellow, brown-eyed bean.

65339. No. 4467. No. 5. A deep-green, black-eyed bean which is oblong and slightly flattened one way.

65340. No. 4468. No. 6. A large bean, flattened one way, which is creamy yellow with a pale-yellow eye.

65341. No. 4469. No. 6a. This creamy yellow bean, nearly round, is of good size and has a reddish-brown eye.

65342. No. 4470. No. 8. A brown-eyed, creamy yellow bean which is of average size, oblong, and slightly flattened one way.

65343. No. 4471. No. 8a. A small, almost round, creamy yellow bean with a tinge of green.

65344. No. 4472. No. 9. An almost round bean which is a clear creamy yellow. The rather large eye is very dark brown.

65345. No. 4473. No. 10. A dark-brown oblong bean, somewhat flattened one way, with a reddish-brown eye.

65346. No. 4474. No. 11. A clear creamy yellow, rather round bean. The eye is reddish brown with a white center.

65347. No. 4475. No. 12. An oblong, dark-brown bean, somewhat flattened one way with a slightly reddish-brown eye.

65348. No. 4476. No. 14. A small, flattened, brown bean with a reddish-brown eye.

65349. No. 4477. No. 15. A shiny black oblong bean, having a dull black eye.

65350. No. 4478. No. 16. A pale-yellow bean which is slightly oblong and rather flattened one way. The eye is a rich creamy yellow.

65337 to 65436—Continued.

65337. No. 4473. No. 16a. An oblong dark-brown bean, flattened one way, which has a reddish-brown eye.

65338. No. 4480. No. 17. A small, almost round bean which is creamy yellow mixed with green. The eye is scarcely discernible.

65339. No. 4481. No. 18. A large oblong dark-brown bean flattened one way. The reddish-brown eye is not very conspicuous.

65340. No. 4482. No. 19a. A round oblong black bean with a dull, inconspicuous eye.

65341. No. 4483. No. 20. An average-sized oblong black bean, flattened one way, with a dull-black inconspicuous eye.

65342. No. 4484. No. 21. An attractive oval creamy yellow bean, the eye of which is almost a white streak.

65343. No. 4485. No. 22. A large oval creamy-yellow bean having an eye of a darker shade.

65344. No. 4486. No. 23a. A brown bean, flattened one way, with a reddish-brown eye.

65345. No. 4487. No. 24a. An almost round, creamy-yellow bean with a reddish-brown eye.

65346. No. 4487a. No. 24. An oval greenish-yellow bean, flattened one way, with an inconspicuous eye of a darker shade.

65347. No. 4488. No. 25. An oblong creamy yellow bean mixed with a shade of green, having a large, rather black eye.

65348. No. 4489. No. 26. A small oblong creamy yellow bean with a shade of green surrounding a large dark-brown eye.

65349. No. 4490. No. 27. A brown bean, almost round, with a reddish-brown, inconspicuous eye.

65350. No. 4491. No. 28. An oblong light-green bean, flattened one way, with a white eye.

65351. No. 4492. No. 29. A large oblong light-green bean, flattened one way, with a light-brown eye.

65352. No. 4493. No. 30. A large creamy yellow bean, flattened one way, with a large dark reddish-brown eye.

65353. No. 4494. No. 31. A large-oblong flattened green bean, having a large reddish-brown eye.

65354. No. 4495. No. 32. A long flat greenish-brown bean with a reddish-brown eye.

65355. No. 4496. No. 33. A large oblong bean which is yellow with a tinge of green. The eye is large and reddish brown.

65356. No. 4497. No. 34. An almost round, light-green bean with a light-brown eye.

65357. No. 4498. No. 35. A large oblong flattened brown bean with a lighter brown eye.

65358. No. 4499. No. 36. A good-sized bright-yellow bean which is oblong and has a light reddish-brown eye.

65359. No. 4500. No. 37. A small shiny black oblong bean with a dull-black eye.

65360. No. 4501. No. 38. A rather large oblong, shiny black bean with a dull-black eye.

65361. No. 4502. No. 39. A light-brown oblong bean of fair size, with a rather small reddish-brown eye.

65362. No. 4503. No. 40. A greenish yellow, almost round bean with a slightly protruding reddish-brown eye.

65363. No. 4504. No. 41. An almost round, shiny black bean of fair size, with a dull-black eye.

65337 to 65436—Continued.

65373. No. 4505. No. 51. A clear creamy yellow oblong bean, slightly flattened and of fair size. The eye is whitish with a peculiar light-brown blotch at one end.

65374. No. 4506. No. 52. A greenish yellow, strong, nearly round bean of average size, with a dark reddish-brown eye.

65380. No. 4506a. No. 53. A reddish brown, rather round bean. The eye is a dark reddish brown with a white slit in it.

65381. No. 4507. No. 54. A fairly good-sized oblong creamy yellow bean with a tinge of green and a dark gray eye.

65382. No. 4508. No. 55a. A rather large, creamy yellow, somewhat wrinkled bean, with a light-brown inconspicuous eye.

65383. No. 4509. No. 56. A nearly round, dull-green or drab-colored bean with a dark greenish eye.

65384. No. 4510. No. 56. An almost round, greenish yellow bean, of medium size, with a dark reddish-brown eye.

65385. No. 4511. No. 57. An oblong reddish-brown bean with a dark reddish-brown eye.

65386. No. 4512. No. 58. An oblong greenish yellow bean with a reddish-brown eye which has a dark-brown blotch under it.

65387. No. 4513. No. 59. A large, oblong, rather dark-brown bean with a long reddish-brown eye.

65388. No. 4514. No. 60a. A small brown bean, flattened one way, with a reddish-brown eye.

65389. No. 4515. No. 60. An attractive-looking oblong brown bean with a reddish-brown eye.

65390. No. 4516. No. 60a. A good-sized greenish yellow oblong bean having a large reddish-brown eye.

65391. No. 4517. No. 61. A medium-sized oblong brown bean with a reddish-brown eye.

65392. No. 4518. No. 62. A drab or olive-green oblong bean which is blotched dark green around the nearly black eye.

65393. No. 4519. No. 63. An oblong, rather shiny black bean with a dull-black eye.

65394. No. 4520. No. 65. A pale-yellow, large, almost round bean having a reddish-brown eye.

65395. No. 4521. No. 66. A large, rather round, brown bean with a dark-brown eye.

65396. No. 4522. No. 67. An oblong, flattened, drab or olive-green bean with a reddish-brown eye.

65397. No. 4523. No. 68a. An almost round, shiny black bean of good size, with a dull-black eye.

65398. No. 4524. No. 68. A light-green oblong good-sized bean with a dark-green eye.

65399. No. 4525. No. 69. An oval, light greenish yellow bean with a light reddish-brown eye.

65400. No. 4526. No. 70. A large oblong bean, creamy yellow mixed with green. The eye is a reddish brown.

65401. No. 4527. No. 71. A shiny greenish brown oblong bean with an inconspicuous eye which has a brown blotch under one end.

65402. No. 4528. No. 72. A small, almost round, light-brown bean with a band of darker brown.

65403. No. 4529. No. 73. An oblong brown bean with a dark reddish-brown eye.

65337 to 65436—Continued.

65404. No. 4530. No. 73a. A good-sized oval yellowish green bean with a long reddish-brown eye.
65405. No. 4531. No. 74. A small oblong dull brownish black bean having the appearance of a wild soy bean.
65406. No. 4532. No. 76. A long flat brown bean having a reddish-brown eye.
65407. No. 4533. No. 77. A large, clear creamy yellow bean with a large, reddish-brown eye.
65408. No. 4534. No. 77a. An oblong good-sized bean of a light olive green. The eye is dull black.
65409. No. 4535. No. 78. A small brown bean which is almost round. The dark-brown eye is blotched a greenish brown.
65410. No. 4536. No. 79. An almost round, olive-green bean with a fairly dark brownish eye.
65411. No. 4537. No. 80. A medium-sized oblong brown bean having a reddish-brown eye with a light slit.
65412. No. 4538. No. 81. A rather small, almost round bean which is creamy yellow tinged with green. The eye is reddish brown.
65413. No. 4539. No. 82. An almost round, shiny black bean with a dull-black eye.
65414. No. 4540. No. 83. An attractive, large, creamy yellow bean with a large, black eye.
65415. No. 4541. No. 85. A very good-sized, almost round bean which is creamy yellow with a faint tinge of green. The eye is large and reddish brown.
65416. No. 4542. No. 86. A large oblong bean with peculiar markings of black and brown and a dull-black eye.
65417. No. 4543. No. 87. A medium-sized, almost round clear brown bean having a very narrow reddish-brown eye in which there is a light-colored slit.
65418. No. 4544. No. 87a. An oblong, flattened, wrinkled bean which is a greenish brown. The eye is long and reddish brown.
65419. No. 4545. No. 88. An oblong flattened bean with shiny and dull-brown blotches and with a long reddish-brown eye.
65420. No. 4546. No. 89. An almost round, creamy yellow bean with a large, reddish-brown eye.
65421. No. 4547. No. 90. An oblong, rather small, black bean with a dull-black eye.
65422. No. 4548. No. 91. A large, almost round, shiny black bean with a dull-black eye.
65423. No. 4548a. No. 91a. A large, almost round bean which is brown with a dull-black eye.
65424. No. 4549. No. 92. An attractive, clear creamy yellow, almost round bean with a large, black eye.
65425. No. 4550. No. 93. An oblong, rather light-brown bean with a reddish-brown eye.
65426. No. 4551. No. 94. An oblong, creamy yellow bean with a rich-yellow inconspicuous eye.
65427. No. 4552. No. 95. A small, oblong, creamy yellow bean with a rather small reddish-brown eye.
65428. No. 4553. No. 96. An oblong creamy green bean with a rather small, reddish-brown eye.

65337 to 65436—Continued.

65429. No. 4554. No. 97. A large oblong greenish yellow bean with a fairly large reddish-brown eye.
65430. No. 4555. No. 98. A large, attractive, almost round creamy yellow bean with a large, black eye.
65431. No. 4556. No. 99. A large, almost round, creamy yellow bean with a light reddish-brown eye.
65432. No. 4557. A large oblong flattened bean which is dark brown. The eye is small and reddish brown.
65433. No. 4558. A good-sized, creamy yellow, almost round bean. The inconspicuous eye is light yellow and blotched at one end with a deeper shade of yellow.
65434. No. 4559. A medium-sized oblong brown bean which is flattened. The small eye is reddish brown.
65435. No. 4560. A small, oblong, rather dull black bean with a dull-black eye.
65436. No. 4561. An almost round, creamy yellow bean with a slight greenish tinge and a small light-colored eye.

65437 and 65438. *Rosa* spp. *Rosaceae*.
Rose.

From Nogent sur Vernisson, Loiret, France. Plants presented by L. Pardé, Directeur des Ecoles Forestières des Barres. Received December 3, 1925.

65437. *ROSA ROXRURGHII* X *RUGOSA*.

65438. *ROSA MULTIFLORA* Thunb.

5907 *Semis* 5124 *M. V.* Sent from China by M. Levaille, in 1907, through P. Cavalerie. (Letter of David Fairchild, January 31, 1925.)

65439. *DAVIDIA INVOLUCRATA* Baill.
Cornaceae.

From Paris, France. Seeds presented by A. Gerard. Received November 23, 1925.

The Chinese dove tree, as this is sometimes called, is a native of the mountain forests of central and western China. In its native home it becomes a tree 75 feet tall, with a shapely pyramidal crown. When in bloom the tree is unusually striking because of the two or three large snow-white bracts which subtend each flower. These bracts are of unequal size, the largest being 4 to 8 inches long and 2 to 4 inches broad. The bright-green, oval, sharply toothed leaves are 3 to 6 inches long.

For previous introduction, see No. 62007.

65440 to 65443. *CITRUS AURANTIUM* L.
Rutaceae. *Sour orange*.

From Cadiz, Spain. Bud wood presented by O. W. Barrett, agricultural adviser, Department of Agriculture and Labor, San Juan, Porto Rico. Received November 24, 1925.

65440. No. 2. *Seville*. From Cordoba.

65441. No. 3. *Regular Seville*. From Seville.

65442. No. 4. *Small Seville*. From Seville.

65443. No. 5. *Spineless Seville*. From Seville.

65444 to 65449. *SOLANUM* spp. *Solanaceae*.
Wild potato.

From Angol, Chile. Tubers presented by Elbert Reed, Instituto Agrícola Bunster. Received November 20, 1925. Notes by Mr. Reed.

A collection of wild potatoes of possible value to plant breeders.

65444 to 65449—Continued.

65444. *SOLANUM* sp.

This plant is found on the west coast of the island of Chiloe, between 12 and 15 miles south of Quilan, the same locality where W. F. Wight, of the Bureau of Plant Industry, collected the wild potato seven or eight years ago.

65445. *SOLANUM* sp.

Seedling of a wild potato. These tubers were given to me by the family living at Quilan.

65446. *SOLANUM* sp.

These tubers were given to me at Puntra, the halfway station between Ancud and Castro, near Quilan, by a man who said he had found this potato about six years before on the west coast of the island. Since that time it has been cultivated in this man's garden and has been kept pure.

65447 to 65449. These tubers were given to me at Puntra.

65447. *SOLANUM* sp.

Red progeny of wild seed.

65448. *SOLANUM* sp.

White progeny of wild seed.

65449. *SOLANUM* sp.

Yellow progeny of wild seed.

65450. *CASTANEA HENRYI* (Skan) Rehd. and Wils. *Fagaceae*.

From Jamaica Plain, Mass. Scions presented by Dr. C. S. Sargent, Arnold Arboretum. Received December 7, 1925.

A Chinese chestnut which, as described in *Plantae Wilsonianae* (vol. 3, p. 196), is a deciduous tree 25 to 90 feet tall, with oblong, lanceolate, long-petiole leaves, green on both sides. The burrs are either solitary or two or three in a bunch, and contain usually but one nut.

65451. *SACCHARUM OFFICINARUM* L. *Poaceae*. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortun, Director, Estación Experimental Agronómica. Received December 7, 1925.

Cuba No. 653. A new seedling cane variety introduced for trial in Louisiana.

65452. *SACCHARUM OFFICINARUM* L. *Poaceae*. Sugar cane.

From Rio Piedras, Porto Rico. Cuttings presented by Francisco Lopez Dominguez, Director, Insular Experiment Station. Received December 8, 1925.

Variety *B-11569*. Introduced as a new and promising variety for testing in comparison with the standard varieties now in use.

65453 to 65464. *ORYZA SATIVA* L. *Poaceae*. Rice.

From Rangoon, India. Seeds presented by R. Watson, Deputy Director of Agriculture, Southern Circle. Received November 23, 1925. Notes by Mr. Watson.

65453. *Emata A 16-34*. Grown in Prome and the northern parts of the Tharrawaddy districts of Lower Burma, where the annual rainfall ranges from 47 to 67 inches. It is an early-maturing variety and is grown on an area of about 300,000 acres. This rice is very popular among the wealthier people of Burma, being classed as a fancy table variety. It does not mill well, and for this reason the

65453 to 65464—Continued.

bulk of the crop goes through a process of soaking and steaming before being put through the mill. The resulting product, known commercially as "Milchar," is exported to southern India.

65454. *Letyuezin B 15-1*. The districts of Tharrawaddy, Insein, and to some extent Pegu are the main tracts in which this variety is grown. The rainfall ranges from 87 to 100 inches annually. The grain is neither so slender nor so long as that of *Emata* [No. 65453], and it is translucent and hard. It matures early and is planted on high ground where water does not lie long enough for late-maturing varieties to mature successfully.

65455 to 65458. These varieties, commonly known in England as "Burma rice," cover probably the major area in Burma and are also the varieties exported in the largest quantity. They give both a heavy crop and a high output in milling, and keep well when stored after being milled. The grain is short, plump, translucent, hard, and polishes well. The main defect is the presence of red-skinned grains which detract from its appearance when milled. The annual rainfall in Lower Burma, where the largest areas under rice are situated, ranges from 100 to 130 inches.

65455. *Ngasein 8 C 14-8*.

65456. *Ngachima C 14-31*.

65457. *Ngasein 10 C 15-10*.

65458. *Early Ngasein C 19-26*.

65459. *Kamakyi Nedon D 17-88*. Like *Ngasein*, this variety covers a large portion of Lower Burma, but it is confined chiefly to the districts where the rainfall is heavy, requiring about 100 inches. It is generally late in maturing. The grain, which is short, plump, and soft, gives a high output in milling, but does not stand storage well. Locally it is preferred to *Ngasein*, being softer, more palatable, and easily digested. The main defect in this rice is the presence of awns which reduce the weight of a measure of grain.

65460. *Byat E 19-23*. This rice is grown chiefly in the district of Amherst, where the rainfall is from 150 to 200 inches. The grain is very large and broad, but the kernel is soft and opaque. This is one of the largest grained rices known. It matures late and requires a heavy rainfall, about 200 inches.

65461 and 65462. These two varieties supply the glutinous rice of Upper and Lower Burma. They are used chiefly for making sweet cakes and other confections and when boiled or steamed turn into a sticky mass and may be used for puddings.

65461. *Kaukhnyin Ngacheik* (black).

65462. *Kaukhnyin* (white).

65463. *Sabanet*. This is a subvariety of *Medon*, having a grayish black mark, which is highly esteemed for local consumption. The grains become very long and slender when cooked. This rice is usually late maturing, and like *Medon* it mills well, but has the same defect of awns.

65464. *Hoito*. Of Japanese origin.

65465. *LALLEMANTIA IBERICA* (Bieb.) Fisch. and Mey. *Menthaceae*.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received November 27, 1925.

A blue-flowered, herbaceous perennial, native to semiarid regions in Asia Minor and Syria, whose seeds yield an oil said to be a high-grade drying oil.

For previous introduction, see No. 35594.

65466. CANAVALLA MARITIMA (Aubl.) Thouars. Fabaceae.

From Haina, Dominican Republic. Seeds presented by Dr. R. Ciferri, Director, Estacion Agronómica de Haina. Received November 28, 1925.

This plant is adapted perfectly to the seashore, in some places completely covering the sand, in others forming large, green islands of vegetation. It may be valuable for sandy areas with its stoloniferous roots and numerous root tubercles. (Ciferri.)

For previous introduction, see No. 43331.

65467. ARGANIA SPINOSA (L.) Skeels (A. sideroxylon Roem. and Schult.). Sapotaceae.

From Mogador, Morocco. Seeds presented by Louis Beachamp, Inspecteur-Adjoint des Eaux et Forêts. Received December 1, 1925.

The argan tree of western Morocco is very limited in its range, occurring only in that part of the African Continent. It grows to a large size and bears an abundance of light-yellow fruits somewhat resembling small plums in shape. Cattle and goats are said to feed upon these fruits, which are exceedingly acrid to the taste. The seeds are very thick walled and contain an oil which is used as a food and also for illuminating purposes. Apparently the tree is not injured by considerable frost and it may thrive wherever the hardy citrus grows. (David Fairchild.)

65468. PRUNUS SERRULATA Lindl. Amygdalaceae. Flowering cherry.

From Yokohama, Japan. Seeds purchased from the Yokohama Nursery Co. Received December 2, 1925.

Obtained for use as stock for horticultural varieties of flowering cherries.

65469. CYTISUS BATTANDIERI Maire. Fabaceae.

From Algiers, Algeria, Africa. Seeds presented by Dr. René Maire, University of Algiers. Received December 3, 1925.

As described by Dr. René Maire (Bulletin de la Station de Recherches Forestières du Nord de l'Afrique, vol. 1, p. 72), this is a handsome unarmed shrub, with large, rounded, silvery leaflets and elongated clusters of golden yellow flowers. It is native to northern Morocco, and, in the opinion of Doctor Maire, merits cultivation as an ornamental.

65470. PERSEA INDICA (L.) Spreng. Lauraceae.

From Orotava, Tenerife, Canary Islands. Seeds presented by Juan Bolinaga, Directeur du Jardin de Acclimation. Received December 9, 1925.

A handsome tree, with oblong acute leaves 3 to 8 inches long and small white flowers in panicles 3 to 6 inches long. Native to the Canary Islands, Madeira, and the Azores.

For previous introduction, see No. 65031.

65471 to 65476. BERBERIS spp. Barberry.

From Nogent sur Vernisson, Loiret, France. Seeds presented by L. Pardé, Directeur des Ecoles Forestières des Barres. Received December 3, 1925.

65471. BERBERIS CANADENSIS Mill.

Received as *Berberis angulizans*, which is now referred to *B. canadensis*. French-grown seeds of the common barberry of the eastern United States.

For previous introduction, see No. 49055.

65471 to 65476—Continued.**65472. BERBERIS DICTYOPHYLLA Franch.**

Variety *albicaulis*. A form with the lower surface of the leaves intensely white and the young shoots very glaucous. The typical form is a shrub 6 feet high, native to western China, with oblong-oval, sometimes spiny leaves, pale-yellow solitary flowers, and ovoid red berries.

65473. BERBERIS MORRISONENSIS Hayata.

A barberry closely resembling *Berberis dictyophylla*; as described by B. Hayata (Journal of the College of Science, Imperial University, Tokyo, vol. 30, p. 25), it is an erect, densely branched shrub, with three-parted spines and fascicled leathery oval leaves. Unlike *B. dictyophylla*, the berries are in fascicles and are more nearly round.

65474. BERBERIS UMBELLATA Wall.

A hardy subevergreen Himalayan shrub about 3 feet high, with narrow leaves slightly glaucous beneath and umbellike racemes of yellow flowers.

For previous introduction, see No. 53645.

65475. BERBERIS sp.

M. V. 4775.

65476. BERBERIS sp.

Farrer 355.

65477 and 65478. ROSA spp. Rosa-ceae. Rose.

From Nogent sur Vernisson, Loiret, France. Seeds presented by L. Pardé, Directeur des Ecoles Forestières des Barres. Received December 3, 1925.

65477. ROSA MULTIFLORA Thunb.

5907 *Semis 5124 M. V.* Sent from China by M. Leveille, in 1907, through P. Cavalerie. (Letter of David Fairchild, January 31, 1925.)

Plants received under No. 65438.

65478. ROSA ROXBURGHII × RUGOSA.

Plants received under No. 65437.

65479. AGROSTIS STOLONIFERA L. Poaceae. Creeping bent grass.

From Hamburg, Germany. Seeds presented by F. Splechtner, Botanisches Staatsinstitut. Received December 3, 1925.

Locally grown seeds.

65480 to 65516.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 11, 1925.

65480. ACER MANDSHURICUM Maxim. Aceraceae. Maple.

No. 4155. Mefun. September 11, 1925. A Manchurian maple found on the mountain side.

65481. ACER TEGMENTOSUM Maxim. Aceraceae. Maple.

No. 4154. Mefun. September 11, 1925. An interesting green-barked maple with seeds in long racemes, found on the mountain side.

65482. ACONITUM sp. Ranunculaceae. Aconite.

No. 4210. Mefun. September 13, 1925. An attractive blue-flowered vine of a peculiar shape.

65483. ACTAEA SPICATA L. Ranunculaceae.

No. 4166. Mefun. September 11, 1925. A fairly high-growing herbaceous plant with a long spike of purple or black fruits, resembling that of the pokeberry (*Phytolacca decandra*).

65480 to 65516—Continued.

65484. *ACTINIDIA ARGUTA* (Sieb. and Zucc.) Planch. Dilleniaceae.

No. 4156. Mefun. September 11, 1925. A variety from the mountain side, with larger and better flavored fruits than No. 4086 [No. 65177]. Not only is it a good ornamental but also a good-fruited vine, as the vine from which we collected the fruits was bearing a heavy crop. The fruits are eaten fresh or made into jam.

For previous introduction, see No. 45241.

65485. *ACTINIDIA POLYGAMA* (Sieb. and Zucc.) Planch. Dilleniaceae.

No. 4157. Mefun. September 11, 1925. The berries, orange-yellow when ripe, are about the same diameter as those of *Actinidia arguta*, but longer and more pointed. The plant is a vigorous grower.

65486. *ARALIA ELATA* (Miquel) Seem. Araliaceae.

No. 4205. Mefun. September 12, 1925. The plumlike seeds and the fruiting sprays containing small, black seeds make this a very handsome variety.

For previous introduction, see No. 44378.

65487. *BETULA COSTATA* Trautv. Betulaceae. Birch.

No. 4209. Mefun. September 13, 1925. A brown or yellow birch growing on the mountain side. We saw trees 2 to 3 feet in diameter and 75 to 100 feet in height.

65488. *CONVALLARIA MAJALIS* L. Convallariaceae. Lily of the valley.

No. 4141. Mefun. September 11, 1925. A large-flowered, wild Manchurian variety which is abundant on the mountain sides and foothills.

65489. *EUONYMUS ALATUS SURTRIFLORUS* (Blume) Franch. and Sav. Celastraceae.

No. 4206. Mefun. September 12, 1925. A small shrub which has bright-red fruits with an outer coating of creamy white. It makes a very handsome appearance with its prettily colored pink and red foliage against a background of green.

65490. *EUONYMUS MACROPTERUS* Rupr. Celastraceae.

No. 4211. Mefun. September 13, 1925. The handsomest euonymus I have seen; the pink and red fruits resemble miniature Japanese lanterns. The square receptacles are sometimes an inch and a half in diameter.

65491. *EUONYMUS* sp. Celastraceae.

No. 4247. Harbin. September 18, 1925. A small-leaved variety found in the Russian cemetery. The red or pink-coated seeds are in pendulous, pink fruits. This is an attractive and really good variety, but not as fine as No. 4211 [No. 65490].

65492. *IRIS* sp. Iridaceae.

No. 4123. New Russian cemetery, Harbin. September 3, 1925. A rather tall-growing, lavender-flowered variety which is quite common in this section.

65493. *LESPEDEZA DAURICA* (Laxm.) Schindler. Fabaceae.

No. 3842. Harbin. September 15, 1925. A tall plant with white pea-like flowers.

65494. *LESPEDEZA BICOLOR* Turcz. Fabaceae.

No. 4218. Mefun. September 13, 1925. A purple or red-flowered shrubby variety, about 6 feet high, growing near the tops of high mountains.

65480 to 65516—Continued.

65495. *LILIUM* sp. Liliaceae. Lily.

No. 4143. Mefun. September 13, 1925. Plants growing on the western and northwestern slopes of mountains. The leaves of this variety are in whorls, and there are one to five or more seed pods to the plant.

65496. *LILIUM* sp. Liliaceae. Lily.

No. 4144. Mefun. September 13, 1925. From plants growing at the top of one of the highest mountains. The leaves are similar to those of *Lilium longiflorum eximium*.

65497. *LONICERA CHRYSANTHA* Turcz. Caprifoliaceae. Coraline honeysuckle.

No. 4203. Mefun. September 12, 1925. A very attractive shrubby honeysuckle bearing large red berries.

For previous introduction, see No. 42315.

65498. *LYCHNIS* sp. Silenaceae.

No. 4212. Mefun. September 13, 1925. A bright red-flowered herbaceous plant.

65499. *MALUS* sp. Malaceae. Crab apple.

No. 4228. En route from Mefun to Harbin, at a station east of Ertsingientze. September 14, 1925. A small red-fruited variety.

65500. *ACTINOSTEMMA LORATUM* Maxim. Cucurbitaceae.

No. 4213. Mefun. September 13, 1925. A very interesting small plant found climbing over plants on the mountain side.

65501. *PINUS KORAIENSIS* Sieb. and Zucc. Pinaceae. Pine.

No. 4219. Mefun. September 13, 1925. Known here as Manchurian cedar, but to us it is the five-needle pine. The large trees grow near the tops of the mountains, while the smaller trees are found at lower levels.

For previous introduction, see No. 35615.

65502. *RHAMNUS DAVURICA* Pall. Rhamnaceae.

No. 4202. Mefun. September 12, 1925. The tree from which this material was obtained was 15 feet high.

For previous introduction, see No. 62230.

65503. *RHODODENDRON DAURICUM* L. Ericaceae.

No. 4215. Mefun. September 13, 1925. Obtained from the top of a high mountain.

For previous introduction, see No. 38413.

65504. *RIRES MANSHURICUM* (Maxim.) Komarov. Grossulariaceae. Currant.

No. 4159. Mefun. September 13, 1925. A fine red-fruited variety found on the mountain side. The fruits, produced in bunches of good size, are large and of good quality.

For previous introduction, see No. 40460.

65505. *ROSA* sp. Rosaceae. Rose.

No. 4164. Mefun. September 11, 1925. These hips are from the mountain side.

65506. *SAMBUCUS RACEMOSA* L. Caprifoliaceae. Red elder.

No. 4162. Mefun. September 11, 1925. A variety, producing small red fruits, found on the mountain side.

For previous introduction, see No. 36744.

65507 and 65508. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

65480 to 65516—Continued.

65507. No. 4151. Mefun. September 11, 1925. A wild soy bean growing abundantly over wide areas. It varies considerably in the size of the leaves and perhaps in other ways.

65508. No. 4231. Ertshintentze. September 16, 1925. A wild soy bean from the mountain side.

65509. *SYRINGA AMURENSIS* Rupr. Oleaceae. Lilac.

No. 4230. Harbin. September 15, 1925. Obtained from plants in the new Russian cemetery. We do not know whether this lilac is a white, purple, or lavender-flowered variety.

For previous introduction, see No. 57344.

65510. *VAGNERA* sp. Convallariaceae.

No. 4165. Mefun. September 11, 1925. A low-growing herbaceous plant with small bright-red fruits. It bears a spray of small, white fragrant flowers.

65511. *VIRURNUM BUREJATICUM* Regel and Herd. Caprifoliaceae.

No. 4204. Mefun. September 12, 1925. An attractive shrub with dense clusters of red oblong berries which turn black when fully ripe.

For previous introduction, see No. 58807.

65512. *VIRURNUM SARGENTI* Koehne. Caprifoliaceae.

No. 4201. Mefun. September 12, 1925. A strong-growing shrub up to 12 or 15 feet high, with large clusters of bright-red fruits which are very showy. We do not recall having seen the flowers.

For previous introduction, see No. 43734.

65513. *VICIA* sp. Fabaceae. Vetch.

No. 3840. Harbin. A common leguminous plant found all over the cemetery and in many places in the country where we have been.

65514. *VICIA* sp. Fabaceae. Vetch.

No. 4152. Mefun. September 11, 1925. A small-leaved legume growing over brush 3 to 4 feet high, with pods like peas.

65515. *VITIS AMURENSIS* Rupr. Vitaceae. Amur grape.

No. 4153. Mefun. September 11, 1925. A local wild variety which is the best we have ever seen. The vine is a very strong grower; the bunches are large and some of them very compact. The deep-blue or black grapes are of good size, but contain large seeds and very little flesh, though there is considerable well-flavored juice which is made into wine.

For previous introduction, see No. 57367.

65516. *ZEA MAYS* L. Poaceae. Corn.

No. 4158. Mefun. September 11, 1925. A yellow dent corn from a field on a mountain side near the railway station.

65517 to 65552.

From Manchuria. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November, 1925.

65517. *AMPELOPSIS* sp. Vitaceae.

No. 4279. From the Hai Yuan Kuan Temple (Sea Cloud Temple) which is commonly known as the Ta Lu Hua Temple, located in the Taluhua Mountains. September 24, 1925. Seeds of a hard-wooded vine with greenish yellow fruits. This might prove useful as an ornamental.

65517 to 65552—Continued.

65518. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

No. 4276. Seeds from fruits obtained at the South Temple compound of the Ta Lu Hua Temple. September 24, 1925. Called *mao tao* (hairy peach) because of the fuzz on the fruit. A small, round, green peach which is a freestone; the flesh is greenish white and the quality very good.

65519. *CHAETOCLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.

No. 4268. September 23, 1925. A few seed heads of an ordinary millet obtained near Koupangtze.

65520. *CORYLUS SIEBOLDIANA* MANDSHURICA (Maxim.) C. Schneid. Betulaceae. Hazelnut.

No. 4454. Harbin. October 9, 1925. Seeds obtained at the market in Fuchia Tien, the Chinese section.

For previous introduction, see No. 36727.

65521. *DIOSCOREA* sp. Dioscoreaceae. Yam.

No. 4455. October 11, 1925. Air tubers of the yam grown by the Chinese gardeners here at Harbin and vicinity.

65522. *DOLICHOS LABLAB* L. Fabaceae. Hyacinth bean.

No. 4272. These seeds of *yang chiao tou* (goat-horn bean) were obtained at the South Temple compound of the Ta Lu Hua Temple, September 24, 1925. The green pods are used as a fresh vegetable or are sliced up and made into pickles.

65523. *FRAXINUS* sp. Oleaceae. Ash

No. 4277. September 24, 1925. Seeds from small trees along the trail between the Central Temple compound and the East Temple compound.

65524. *GOSSYPIMUM NANKING* Meyen. Malvaceae. Cotton.

No. 4270. September 23, 1925. Seeds gathered en route from Koupangtze to Kuangming.

For previous introduction, see No. 62595.

65525. *HEMEROCALLIS* sp. Liliaceae.

No. 4280. Ta Lu Hua Temple. Seeds collected September 24, 1925.

65526. *IRIS DICHOTOMA* Pall. Iridaceae.

No. 4275. September 24, 1925. Seeds obtained along the trail from the South Temple compound to the Central Temple compound, about 1,500 to 2,000 feet altitude. Perhaps this is the attractive purple iris seen in other places, but it may prove to be a lavender one.

For previous introduction, see No. 62178.

65527. *JUGLANS MANDSHURICA* Maxim. Juglandaceae.

No. 4441. September 30, 1925. *Shan ho t'ao* (wild mountain walnut). Seeds were obtained at Hsiaoliu.

For previous introduction, see No. 62611.

65528. *LESPEDEZA* sp. Fabaceae.

No. 4453. Harbin. October 9, 1925. Seeds of a rather tall-growing plant with numerous very attractive pea-shaped purple flowers, obtained in the new Russian cemetery. Some of the plants are very pendulous.

65529. *LILIUM* sp. Liliaceae. Lily.

No. 4274. Seeds collected along the trail from the South Temple compound to the Central compound, September 24, 1925.

65517 to 65552—Continued.

65530. *MAACKIA AMURENSIS* Rupr. Fabaceae.

No. 4438. A variety with rather inconspicuous white flowers. These seeds were obtained at Hsiaoliu, September 30, 1925.

For previous introduction, see No. 57301.

65531. *MALUS* sp. Malaceae. Crab apple.

No. 4350. Ertshintentze. Seeds collected September 25, 1925. A wild Chinese crab apple from the mountains. This is a fine ornamental and may prove valuable as a stock and in connection with plant-breeding experiments.

65532. *CYNANCHUM AURICULATUM* Royle. Asclepiadaceae.

No. 3841. Harbin. September 15, 1925. Seeds of a large-leaved, pink-flowered, fragrant vine. It has a milky juice, and the seed pod is similar to that of the milkweed.

65533 to 65535. *ORYZA SATIVA* L. Poaceae. Rice.

65533. No. 4348. A few seed heads of an upland rice obtained en route from the Ta Lu Hua Temple to Koupangtze, September 25, 1925.

65534. No. 4580. A water rice, bearded, with a white hull, grown a few miles west of Harbin in the Sungari River bottom.

65535. No. 4581. Harbin. October 13, 1925. Seed heads of a red-hulled bearded water rice which is called *pukado* (?) and which is supposed to be a Japanese variety.

65536. *PHYSALIS ALKEKENGII* L. Solanaceae.

No. 4439. Purchased en route from Hsiaoliu to Harbin. Fruits orange scarlet, of fine quality.

65537 to 65542. *PYRUS* spp. Malaceae. Pear.65537. *PYRUS* sp.

No. 4253. Koupangtze. September 22, 1925. Seeds of the *pa li hsiang li* (eight-li fragrant pear). F. C. Reimer, Talent, Oreg., says that this is the most important Chinese pear.

65538. *PYRUS* sp.

No. 4254. Koupangtze. September 22, 1925. Seeds of the *hsiang shui li* (fragrant water pear).

65539. *PYRUS* sp.

No. 4255. Seeds of a variety, which, according to Professor Reimer, is one of the four most important Chinese pears for stock. Obtained at the Ta Lu Hua Temple, September 22, 1925.

65540. *PYRUS* sp.

No. 4269. September 24, 1925. *Tu li* (wild pear). Seeds obtained from trees growing near the Ta Lu Hua Temple. The natives use this pear as stock for all the cultivated varieties.

65541. *PYRUS* sp.

No. 4416. September 26, 1925. *Chien pa li* (pointed bottom pear). Seeds purchased at Hsiungyaoching.

65542. *PYRUS* sp.

No. 4417. Hsiungyaoching. September 26, 1925. Seeds of the *man yuan hsiang li* (fragrant-in-the-whole-orchard pear), used in the manufacture of brandy.

65543. *RICINUS COMMUNIS* L. Euphorbiaceae. Castor bean.

No. 4582. Harbin. October 14, 1925. Seeds of a variety free from awns on the seed pods, obtained from the botanical garden of the Manchurian Agricultural Research Society.

65517 to 65552—Continued.

65544 and 65545. *SALIX* spp. Salicaceae. Willow.

Cuttings from the Sungari River bottom, October 15, 1925. These two forms should make good basket stock, as the growth is long and slender and about 8 feet in length. These willows are said to be cut off every year for fuel.

65544. *SALIX* sp.

No. 4590. A yellow-bark willow.

65545. *SALIX* sp.

No. 4591. A red-bark willow.

65546 to 65549. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

65546. No. 4273. Seeds of a large-fruited, green soy bean, obtained at the Ta Lu Hua Temple, September 24, 1925.

65547. No. 4437. September 30, 1925. Wild soy bean. These seeds were obtained by Peter Liu at Hsiaoliu.

65548. No. 4448. October 5, 1925. A wild soy bean presented by B. W. Skvortzow. These seeds were obtained in the Sungari River bottom.

65549. No. 4583. October 14 and 15, 1925. Seeds of a wild soy bean from the Sungari River bottom.

65550. *SPIRAEA* sp. Rosaceae. Spirea.

No. 4278. September 24, 1925. Seeds from plants growing near the Ta Lu Hua Temple. Apparently the plants had bloomed profusely. This may prove valuable as an ornamental.

65551. *TILIA AMURENSIS* Rupr. Tiliaceae. Linden.

No. 4271. Seeds of a small-leaved Manchurian linden growing along the trail from the South Temple compound to the Central Temple compound.

65552. *TRIFOLIUM REPENS* L. Fabaceae. White clover.

No. 4440. September 30, 1925. Seeds of a white clover obtained at Hsiaoliu, along the railroad. This variety is apparently an introduction.

65553. *EUCALYPTUS LEHMANNI* (Schauer) Preiss. Myrtaceae.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received November 27, 1925.

In a note published under No. 28849, Alwin Berger, of La Mortola, Ventimiglia, Italy, states that this is a large shrub or small tree with rough reddish bark peeling off in irregular sheets. The greenish yellow flowers open from July to September. It is native to Western Australia, and Mr. Berger believes it to be a valuable ornamental.

65554 to 65558.

From Kharkof, Ukraine, Russia. Seeds presented by L. P. Bordakoff, All-Ukrainian Seed-Producing Association, through F. A. Coffman, Bureau of Plant Industry. Received November 30, 1925. Notes by Mr. Bordakoff.

65554. *AVENA SATIVA* L. Poaceae. Oats.

Schatilovsci (mutica). From the Schatilov Experiment Station.

65555 to 65557. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

Varieties of spring wheat from the Saratov Experiment Station.

65555. No. 62 (*lutescens*). For humid dry regions.

65554 to 65558—Continued.

65556. No. 604 (*albidum*). To be used in dry regions.

65557. No. 721 (*albidum*). For dry regions.

65558. *TRITICUM DURUM* Desf. Poaceae.
Durum wheat.

No. 05 (*hordeiforme*). From the Ekaterinoslav Experiment Station. Suited to dry regions.

65559. *TRITICUM TURGIDUM* L. Poaceae.
Poulard wheat.

From Vannes, Brittany, France. Seeds collected by John Ashton, Columbia, Mo., and presented through C. E. Leighty, Bureau of Plant Industry. Received November 30, 1925.

This variety, collected in June, 1925, is said to yield a very heavy crop. It is not yet known by seedsmen. (*Ashton*.)

65560 to 65564.

From Italy. Seeds collected by John Ashton, Columbia, Mo., and presented through C. E. Leighty, Bureau of Plant Industry. Received November 30, 1925. Notes by Mr. Ashton.

65560. *ORYZA SATIVA* L. Poaceae. Rice.

No. 5. An excellent variety known as *Riso Maratella* (Maratella rice), collected in Pavia, Lombardy, May 1, 1925. It is a little earlier than other varieties found there.

65561. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 1. Var. *Gentil Rosso*. From Asti.

65562. *TRITICUM TURGIDUM* L. Poaceae.
Poulard wheat.

No. 2. Var. *Civitella*. From Asti.

65563. *TRITICUM* sp. Poaceae. Wheat.

No. 3. Sometimes called *Padovano* but more commonly known as *Cologna Veneto*. From Asti.

65564. *TRITICUM* sp. Poaceae. Wheat.

No. 4. *Cologna Veneto*. From Pavia, Lombardy. May, 1925.

65565 to 65572. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.
Common wheat.

From Kharkof, Ukraina, Russia. Seeds presented by L. P. Bordakoff, All-Ukrainian Seed-Producing Association, through F. A. Coffman, Bureau of Plant Industry. Received November 30, 1925. Notes by Mr. Bordakoff.

65565 to 65572. Varieties of winter wheat.

65565. No. 117. (*ferrugineum*). From the Kharkof Experiment Station. For dry regions.

65566. *Hour Councours* (*ferrugineum*). For humid regions.

65567. *Triumf Podolian* (*ferrugineum*). For humid regions.

65568. *Kooperatorca* (*erythrospermum*). From the Odessa Experiment Station. This variety, which has very good baking qualities, is especially suited for dry regions.

65569. *Semka* (*erythrospermum*). From the Odessa Experiment Station. For humid regions.

65570. *Ukrainka* (*erythrospermum*). From the Mironof Experiment Station. For humid regions.

65571. No. 120 (*millitum*). From the Kharkof Experiment Station. For dry regions.

65565 to 65572—Continued.

65572. No. 0274. "*Girca*" (*millitum*). From the Odessa Experiment Station. For dry regions.

65573. *GOSSYPIMUM HIRSUTUM* L. Malvaceae.
Cotton.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by C. P. Lounsbury, chief, division of entomology, Department of Agriculture. Received December 1, 1925.

Cambodia. Seeds originally from Mr. Hilson, cotton specialist, Coimbatore, India.

65574. *ORYZA SATIVA* L. Poaceae.
Rice.

From Taihoku, Formosa, Japan. Seeds presented by Dr. Kintaro Oshima, Director, Government Research Institute. Received December 4, 1925.

Commonly known as "toa tsu" in Taiwan. (*Oshima*.)

65575. *DIPLO RHYNCHUS MOSSAMBICENSIS* Benth. Apocynaceae.

From Tjolotjo, Southern Rhodesia. Seeds received through H. L. Shantz, Bureau of Plant Industry. Received December 7, 1925.

This variety grows in dry regions and becomes a rather handsome tree. (*Shantz*.)

In a note published under No. 48248, J. Burt-Davy states that this is a small Rhodesian tree yielding a rubber in quantity, which, however, is of doubtful quality.

65576. *EUCALYPTUS URNIGERA* Hook. f. Myrtaceae.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received December 4, 1925.

A tall shapely tree, native to the mountains of Tasmania, and said to be one of the hardest of the eucalypts. The pale-yellow flowers, in clusters of three, are followed by urn-shaped capsules.

For previous introduction, see No. 50210.

65577. *GOSSYPIMUM HIRSUTUM* L. Malvaceae.
Cotton.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, acting director, Bureau of Agriculture. Received December 4, 1925.

A white variety of cotton grown in the Philippines.

65578 to 65583. *DIOSPYROS KAKI* L. f. Diospyraceae.
Kaki.

From Canton, China. Bud wood collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received December 15, 1925. Notes by Mr. McClure.

Numbers 65578 to 65581 (October 23, 1925) are from the village of Pakshan, Honam Island, about 6 miles east of the Canton Christian College.

65578. No. 173. *Taii paat sin tsz*. A few-seeded variety with very attractive bright-red fruits which are globular, medium sized, and of good flavor, obtained from Mok Fai T'ong. The fruits are usually ripened by the banyan-leaf method. The season extends from the last of August until the early part of October. The shipping quality of this variety is not quite so good as that of No. 174 [No. 65579].

65579. No. 174. *Kai sam tsz*. Obtained from a tree belonging to Mok Hang. This is a seedless strain of the small-fruited variety

65578 to 65583—Continued.

known as "chicken-heart persimmon." There seem to be a number of subvarieties falling under this group, varying somewhat in size, shape of fruit, and in number of seeds. The fruits are oblong, sometimes nearly square in cross section, and with a slight, sharp projection at the apex. The season for this variety or group extends from the last of August to the last of October, the longest of any variety known to me. As with other varieties of persimmons here, this variety is harvested when the skin has turned yellow, but while the flesh is still firm. The fruits are ripened by what is known as the banyan-leaf method; they are kept in earthenware jars between layers of fresh banyan leaves for two to four days to remove the pucker. The flavor is excellent, suggesting the rich, sweet, aromatic flavor of well-ripened fruits of *Diospyros virginiana*. This is one of the most prolific varieties cultivated here.

65580. No. 175. *Taai tsz*. From a tree with unusually large leaves, belonging to Mok Pan. A large, red-fruited, seedless variety of excellent quality and flavor. The season is from late August until early October.

65581. No. 176. *Sai paat sin tsz*. A rather small red-fruited variety with few seeds, obtained from Mok Oo. The fruits are larger and more nearly globose than those of No. 174 [No. 65579]. This variety seems to be distinguished from No. 173 [No. 65578] simply by the smaller average size of its leaves and fruits.

65582. No. 177. Toichung, Honam Island. October 26, 1925. *Shui tsz*, *Ma'tai yeung tsz*. Obtained from Chue Tung. The fruits are 4 to 5 centimeters in diameter, globose, light yellow, rather seedy, and have firm flesh.

65583. No. 178. Toichung, Honam Island. October 26, 1925. *Taai shui tsz*. From a tree belonging to Chue Tung. A grafted tree bearing large, nearly seedless fruits with firm, mellow flesh, which should be ripened by the limewater method.

65584 and 65585.

From Santa Cruz, Palma, Canary Islands. Seeds purchased by David Fairchild, agricultural explorer, Bureau of Plant Industry, Allison V. Armour expedition, through Aboucher & Co. Received December 7, 1925.

65584. *CYTISUS PALMENSIS* (Christ) Hutchinson. Fabaceae. Tagasaste.

A stout leguminous shrub, up to 12 feet high, of rather lax habit, with long slender branches and green trifoliate leaves with silky pubescent lower surfaces. The white flowers are in axillary clusters among the branches. It is native to the Canary Islands, where it is considered an excellent drought-resistant forage plant.

For previous introduction, see No. 28827.

65585. *PSORALEA BITUMINOSA* L. Fabaceae.

The *Tedera* is a herbaceous perennial about 3 feet high which is found everywhere along the roads and trails throughout the barrancos of the islands and on some of the terraces, where the soil is too shallow and dry for alfalfa; it is cultivated for its hay. It is said to be a splendid milk producer. (Fairchild.)

For previous introduction, see No. 64970.

65586. MONTEZUMA SPECIOSISSIMA DC. Bombacaceae.

From San Juan, Porto Rico. Seeds presented by C. A. Figueroa, assistant agricultural adviser, Department of Agriculture and Labor. Received December 3, 1925.

A Porto Rican tree, which, as described by N. L. Britton and Percy Wilson (Scientific Survey of Porto Rico, vol. 5, p. 565), is up to 50 feet in height with a trunk sometimes a foot in diameter. The papery, rounded-oval leaves are 2 to 3 inches long, and the tree is commonly planted for shade in Porto Rico because of its showy flowers, which are deep pink shading to crimson within, with yellow anthers. The hard, valuable, durable wood, brown in color, is used for cabinetwork and for general construction.

65587. MEIBOMIA GANGETICA (L.) Kuntze (*Desmodium gangeticum* DC.). Fabaceae.

From Dehra Dun, United Provinces, India. Seeds presented by R. N. Parker, forest botanist. Received December 15, 1925.

As described by J. G. Baker (Hooker, Flora of British India, vol. 2, p. 108), this is a woody herbaceous plant, more or less erect and 3 to 4 feet high, with oblong leaflets 3 to 6 inches long and copious lateral and terminal flower clusters. Native to the Himalayas, and distributed throughout the East Indies and tropical Africa. Introduced for trial as a forage plant and for use in soil improvement in the Southern States.

For previous introduction, see No. 30874.

65588 to 65590.

From Kew, Surrey, England. Seeds presented by Dr. S. D. Cotton, keeper of the herbarium, Royal Botanic Gardens. Received December 15, 1925. Notes by Doctor Cotton.

65588 and 65589. *BETA VULGARIS* L. Chenopodiaceae. Wild beet.

65588. Collected in North Somerset by I. M. Roper.

65589. Collected in Lymington by Miss S. J. Chandler.

65590. *BRASSICA OLERACEA* L. Brassicaceae. Wild cabbage.

Collected in a remote part of Dorsetshire.

65591 to 65610. BERBERIS spp. Berberidaceae. Barberry.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received December 15, 1925.

65591. *BERBERIS ACUMINATA* Franch.

A Chinese barberry, which, as described by W. J. Bean (Trees and Shrubs Hardy in the British Isles, vol. 1, p. 234), is an evergreen shrub of open spreading habit, with bright-red young growth and stout three-parted spines 3 to 6 inches long. The brownish yellow flowers, three-fourths of an inch broad, are in clusters of four to eight in the axils of the previous year's shoots. The oblong, black fruits are half an inch long. Native to central China.

For previous introduction, see No. 58088.

65592. *BERBERIS AGGREGATA* PRATT C. Schneid.

As described in Curtis's Botanical Magazine (pl. 8549), this is a hardy shrub 6 to 10 feet high, with slender three-parted spines, oval leaves,

65591 to 65610—Continued.

narrow panicles of yellow flowers, and egg-shaped salmon-red fruits about one-fourth of an inch long. It is a native of western China and grows very freely under cultivation at Kew, England.

For previous introduction, see No. 58136.

65593. *BERRERIS CANADENSIS* Mill.

Received as *Berberis angulizans*, which is now referred to *B. canadensis*. This is the common barberry of the eastern United States, and seeds are now introduced for the use of horticulturists studying the genus *Berberis*.

For previous introduction, see No. 49055.

65594. *BERRERIS CANDIDULA* C. Schneid.

A prostrate evergreen shrub with yellowish branchlets, elliptic leaves, white beneath, and violet-black fruits. Native to central China.

65595. *BERRERIS DICTYOPHYLLA* Franch.

A graceful bushy barberry, about 6 feet high, native to southwestern China, with small tufts of oblong leaves, glaucous beneath, solitary yellow flowers, and ovoid red berries.

For previous introduction, see No. 59003.

65596. *BERRERIS DIELSIANA* Fedde.

A spreading, loosely branched, Chinese shrub often 10 feet high, with elliptic leaves that are whitish beneath. The beauty of the red fruits is accentuated by the bronzy color of the leaves in the fall.

For previous introduction, see No. 58103.

65597. *BERRERIS FRANCISCI-FERDINANDI* C. Schneid.

For previous introduction and description, see No. 65230.

65598. *BERRERIS GAGNEPAINI* C. Schneid.

An evergreen Chinese shrub 3 to 6 feet high, with leathery leaves, spiny on the margins, and delicate yellow flowers on red pedicels. The ellipsoid berries are dark purple.

For previous introduction, see No. 61974.

65599. *BERRERIS JULIANAE* C. Schneid.

A shrubby barberry, up to 7 feet high, native to western China. It has thick three-cleft spines about 1½ inches long, narrowly oval leathery leaves, and small, yellow flowers.

For previous introduction, see No. 63336.

65600. *BERRERIS LEVIS* Franch.

An evergreen shrub up to 5 feet high, usually with long spines, with narrow-linear leaves, and small purplish fruits. Native to western China.

For previous introduction, see No. 34553.

65601. *BERRERIS MORRISONENSIS* Hayata.

For previous introduction and description, see No. 65473.

65602. *BERRERIS RUFROSTILLA* Hort.

"An elegant seedling barberry of unrecorded parentage, but probably a hybrid between *Berberis wilsonae* and *B. concinna*. It has the habit of the latter, but has large, pendent, rich coral-red fruits. It is a very useful addition to our fruiting shrubs." (*Gardeners' Magazine*, vol. 59, p. 449.)

For previous introduction, see No. 47300.

65591 to 65610—Continued.

65603. *BERRERIS SURCAULIALATA* C. Schneid.

A thickly branched shrub from Tibet, up to 4½ feet high, with spines up to an inch in length, thick lance-shaped leaves about an inch long, and globular, reddish yellow fruits one-fourth of an inch in diameter.

For previous introduction, see No. 58143.

65604. *BERRERIS WILSONAE* Hemsl.

A handsome, sometimes partially evergreen shrub, 2 to 4 feet high, with abundant roundish coral-red berries, somewhat translucent. The leaves assume brilliant tints in the fall. Native to western China.

For previous introduction, see No. 60419.

65605. *BERRERIS* sp.

Farrer No. 355.

65606. *BERRERIS* sp.

M. V. No. 2763.

65607. *BERRERIS* sp.

Vilmorin No. 117/15.

65608. *BERRERIS* sp.

Wilson No. 1180.

65609. *BERRERIS* sp.

M. V. No. 7509.

65610. *BERRERIS* sp.

Labeled *Berberis morrisonensis* (?) No. 10912 Wilson; fruits not like *B. morrisonensis*.

65611. *SENECIO GRISEBACHII* Baker.
Asteraceae.

From Orotava, Teneriffe, Canary Islands. Seeds presented by Juan Bolinaga, Directeur du Jardin de Acclimatation. Received December 9, 1925.

A Brazilian composite which, as described by Martius (*Flora Brasiliensis*, vol. 6, pt. 3, p. 313), is either a biennial or perennial herb, with sessile linear leaves 3 to 4 inches long, white pubescent beneath, and lax panicles of small yellow flowers.

65612 to 65684.

From Manchuria. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December, 1925.

65612. *ACTINIDIA KOLOMIKTA* (Maxim.) Rupr.
Dilleniaceae.

No. 4576. Ertsingtiente. October 26, 1925. Cuttings of an extremely ornamental vine with many of the leaves blotched white.

For previous introduction, see No. 58153.

65613. *AMETHYSTEA CAERULEA* L. Menthaceae.

No. 4568. October 25, 1925. Seeds presented by L. B. Smearnoff, of Echo. Seeds eaten by birds. A fragrant hardy annual about a foot high.

65614. *AMPELOPSIS RAVIPEDUNCULATA* (Maxim.) Koehne. Vitaceae.

No. 4633. Harbin. October 30, 1925. Cuttings of a variety producing yellowish green fruit, from the Russian cemetery. Seeds were sent in under No. 3723 [No. 65178].

For previous introduction, see No. 63332.

65612 to 65684—Continued.

65615. ASPARAGUS sp. Convallariaceae.

No. 4573. Ertzingientze. October 26, 1925. Seeds of a wild asparagus found on the mountain side. This may prove useful as an ornamental or in connection with breeding experiments.

65616 and 65617. BETULA spp. Betulaceae. Birch

October 25, 1925. Seeds from trees growing in exposed places in the grounds of L. B. Smearnoff, of Echo.

65616. BETULA sp.

No. 4569. A white-barked birch.

65617. BETULA sp.

No. 4570. A yellow-barked birch.

65618. CANNABIS SATIVA L. Moraceae. Hemp.

No. 4571. October 25, 1925. Seeds obtained from L. B. Smearnoff, of Echo. This is a large-seeded hemp with a stronger odor than the average. The birds, especially the sparrows, are fond of the seeds.

65619 and 65620. CASTANEA MOLLISSIMA Blume. Fagaceae.

October 29, 1925. Scions obtained by J. H. Dorsett at the Fa Hua Ssu Temple, near Peking.

65619. No. 4687. *Ta chao li tze* (tiger-paw chestnut). This chestnut is about 1 inch in size and ripens in September.

65620. No. 4688. *Pai lu li tze* (white dew chestnut). The diameter of this variety is less than 1 inch; it ripens in early September.

65621 and 65622. CORYLUS HETEROPHYLLA Fisch. Betulaceae. Hazelnut.

Ertzingientze. October 25, 1925. The Manchurian hazel, found on the mountain side to the north of the Chinese Eastern Railway.

For previous introduction, see No. 36726.

65621. No. 4578. Rooted plants.

65622. No. 4579. Scions.

65623. IRIS ENSATA Thunb. Iridaceae.

No. 4564. Echo. October 26, 1925. Seeds of a cluster iris which is very abundant in this region. The flowers are said to be lavender.

65624. LESPEDeza sp. Fabaceae.

No. 4566. Echo. October 26, 1925. Seeds.

65625. LINUM USITATISSIMUM L. Linaceae. Flax.

No. 4565. October 26, 1925. Seeds obtained through L. B. Smearnoff, of Echo.

65626 to 65633. MALUS spp. Malaceae. Crab apple.

65626. MALUS sp.

No. 4630. Harbin. October 29, 1925. Scions of a small-fruited, wild Manchurian crab apple. These trees were growing on sand dunes. They might be useful for stock and breeding work and may be ornamental.

65627. MALUS sp.

No. 4638. Harbin. October 30, 1925. Seeds from the Chinese Eastern Railway nursery. The fruit is small, one-half to three-fourths of an inch in diameter, and yellow. It is an attractive ornamental and a good grower and is used here as a stock especially for the same variety.

65612 to 65684—Continued.

65628. MALUS sp.

No. 4641. Harbin. October 30, 1925. Scions of a yellow-fruited crab apple presented by the superintendent of the Chinese Eastern Railway nursery. The fruits are rather small, one-half to three-fourths of an inch in diameter. This variety is grown here quite extensively, for the fruit and as an ornamental.

65629. MALUS sp.

No. 4643. Harbin. October 30, 1925. Scions presented by the superintendent of the Chinese Eastern Railway nursery. This variety, which is their best early red crab apple, may prove valuable as a stock.

65630. MALUS sp.

No. 4673. October 29, 1925. *Hung ping kou*. Scions obtained at the Fa Hua Ssu Temple, near Peking. The fruits are red, $3\frac{1}{2}$ inches in diameter, and ripen in August.

65631. MALUS sp.

No. 4674. October 29, 1925. *Hung hsiang kou*. Scions obtained at the Fa Hua Ssu Temple, near Peking. The fruits of this fragrant crab apple, $2\frac{1}{2}$ to 3 inches in diameter, are half red and half green, ripening in August.

65632. MALUS sp.

No. 4675. October 29, 1925. *Hung sha kou*. Scions obtained at the Fa Hua Ssu Temple, near Peking. This crab apple produces fruits which are $1\frac{1}{2}$ to 2 inches in diameter and half green and half red. They ripen in August.

65633. MALUS sp.

No. 4676. October 29, 1925. *Cha hua sha kou*. Scions of a crab apple, collected at the Fa Hua Ssu Temple, near Peking. The fruits, 1 to 2 inches in diameter, are spotted red, ripening late in August.

65634. MORUS ALBA L. Moraceae.

White mulberry.

No. 4628. October 29, 1925. Scions from several trees on the sand dunes across the Sungari River to the north of Harbin.

65635 and 65636. PAEONIA spp. Ranunculaceae. Peony.

Harbin. October 27, 1925. These roots were presented by the botanical garden of the Manchurian Research Society.

65635. PAEONIA sp.

No. 4589. The wild Manchurian peony reported to be a double pink form. This plant was originally sent to Harbin from Mefun.

65636. PAEONIA sp.

No. 4596. Originally from Mongolia. The flowers are red and the foliage deep green to reddish.

65637. PAPAVER SOMNIFERUM L. Papaveraceae. Opium poppy.

No. 4573. Seeds presented by L. G. Smearnoff, of Echo. October 25, 1925.

65638. PHELLLODENDRON AMURENSE Rupr. Rutaceae.

No. 4662. Seeds collected in New Town, Harbin. November 1, 1925. This is a common Manchurian tree which may be useful as a hardy shade tree, although the small, black, juicy berries might be objectionable under foot. The tree is said to be rich in tannin.

65612 to 65684—Continued.

65639. *PICEA* sp. Pinaceae. Spruce.

No. 4637. October 30, 1925. Seeds from a young tree, 12 to 18 feet high, growing in the Russian cemetery.

65640. *POLYGONUM ORIENTALE* L. Polygonaceae. Prince's plume.

No. 4567. Echo. October 26, 1925. Seeds presented by L. B. Smearoff, who says that this variety is a tall-growing ornamental plant.

65641 to 65645. *POPULUS* spp. Salicaceae. Poplar.65641. *POPULUS* sp.

No. 4562. October 25, 1925. Cuttings of a poplar, appearing to be a large-leaved variety, found southeast of Echo, in a region which is barren except for the few trees that have been planted there.

65642. *POPULUS* sp.

No. 4627. October 29, 1925. Scions of a small-leaved poplar which is the only tree of this kind we recall having seen here at Harbin. It is on the Chinese Eastern Railway embankment across the Sungari River to the north of Harbin.

65643. *POPULUS* sp.

No. 4632. Harbin. October 30, 1925. Cuttings of an almost round, wavy margined-leaved poplar, with grayish white bark, which is not very common here.

65644. *POPULUS* sp.

No. 4634. October 30, 1925. The ordinary large-leaved poplar found most commonly in the vicinity of Harbin. These cuttings were obtained from trees in the new Russian cemetery, in a dry exposed situation.

65645. *POPULUS* sp.

No. 4635. New Russian cemetery, Harbin. October 30, 1925. Cuttings of a rather long-pointed leaved poplar which is common in his region. The under surface of the leaves is inclined to be white tomentose.

65646 to 65665. *PRUNUS* spp. Amygdalaceae.65646 to 65648. *PRUNUS ARMENIACA* L. Apricot.

65646. No. 4604. Botanical Garden No. 3. October 27, 1925. Scions of a large yellow-leaved apricot, considered a very good variety, presented by the botanical garden of the Manchurian Research Society, Harbin.

65647. No. 4605. Botanical Garden No. 20. October 27, 1925. Scions presented by the botanical garden of the Manchurian Research Society, Harbin. This is considered their largest, earliest, and best apricot.

65648. No. 4672. October 29, 1925. *Ta pai lao yieh* (large, white god-faced apricot). Scions obtained at the Fa Hua Ssu Temple, near Peking. The freestone fruits, $1\frac{1}{2}$ to 2 inches in diameter, white with a pink blush, ripen in June.

65649. *PRUNUS MANDSHURICA* (Maxim.) Koehne.

No. 4574. Ertsingtientze. October 25, 1925. Scions of the wild Manchurian apricot which is, by far, the finest specimen we have seen. It might make a hardy ornamental or be useful in plant breeding.

65612 to 65684—Continued.

65650 to 65652. *PRUNUS TOMENTOSA* Thunb. Manchu cherry.

65650. No. 4599. October 27, 1925. Scions of a red-fruited Manchurian cherry, about five-eighths of an inch in diameter, presented by the botanical garden of the Manchurian Research Society, Harbin.

65651. No. 4639. October 30, 1925. Scions presented by the superintendent of the Chinese Eastern Railway nursery, Harbin. This cherry is not very common here.

65652. No. 4640. October 30, 1925. Seeds of a Manchurian cherry presented by the superintendent of the Chinese Eastern Railway nursery, Harbin. We assume that they saved these seeds from their own planting.

Numbers 65653 to 65660. October 27, 1925. This material was presented by the botanical garden of the Manchurian Research Society, Harbin.

65653. *PRUNUS* sp. Plum.

No. 4592. Botanical garden No. 2. A rooted sucker of a red plum of very good quality and a good fruiter.

65654. *PRUNUS* sp. Plum.

No. 4593. Scions from the same tree as No. 4592 [No. 65653].

65655. *PRUNUS* sp. Plum.

No. 4594. Botanical garden No. 28. Scions of a large yellow plum of very good quality.

65656. *PRUNUS* sp. Plum.

No. 4598. Scions of a fairly large yellow plum of very good quality.

65657. *PRUNUS* sp. Plum.

No. 4600. Scions of a rather large red plum which ripens early in August. The flesh is yellow, fragrant, and sweet, but slightly bitter near the stone.

65658. *PRUNUS* sp. Plum.

No. 4601. Botanical garden No. 55. Scions of a fairly good-sized purple or blue plum which is the heaviest bearing variety at the garden.

65659. *PRUNUS* sp. Plum.

No. 4602. Botanical garden No. 9. Scions of a purple or blue plum used in making very good preserves. The fruits dry well, and this past season some of these plums dried on the tree. This is the only tree in the collection on which any of the plums dried in this way.

65660. *PRUNUS* sp. Plum.

No. 4603. Botanical garden No. 16. Scions of a green plum with a pinkish tinge which ripens about the first of August. The fruits are not especially large, but they are fragrant and very sweet.

65661. *PRUNUS* sp. Plum.

No. 4642. October 30, 1925. Scions of a yellow plum presented by the superintendent of the nursery of the Chinese Eastern Railway, Harbin. These scions are small, but they are from the best fruit-producing plum at the nursery.

65612 to 65684—Continued.

65662. PRUNUS sp. Plum.

No. 4678. *Hung chuan chiao li tze* (red string). Scions obtained at the Fa Hua Ssu Temple, near Peking, October 29, 1925. The red fruits are 1 inch in diameter and ripen in July.

65663. PRUNUS sp. Plum.

No. 4679. October 29, 1925. *Chang bo hung lo tze* (red long-handled plum). Scions collected at the Fa Hua Ssu Temple, near Peking. The red fruits, 1½ inches in diameter, ripen in July.

65664. PRUNUS sp. Plum.

No. 4595. October 27, 1925. Plants of a hardwood variety, found among rocks, presented by the botanical garden of the Manchurian Research Society, Harbin. This Siberian or Mongolian bush apricot, recently collected by N. Glowkhoff in Mongolia, bears good crops. The fruits are small. It may prove useful in breeding work.

65665. PRUNUS sp. Cherry.

No. 4686. October 29, 1925. *Hung shan tou ying tao* (red bean cherry). Scions obtained at the Fa Hua Ssu Temple, near Peking. The small red fruits ripen in June.

65666 to 65675. PYRUS spp. Malaceae. Pear.

65666. PYRUS sp.

No. 4581a. October 26, 1925. Scions of a young tree growing wild on the mountain side, near the Chinese Eastern Railway station, Ertshintientze.

65667. PYRUS sp.

No. 4591. October 27, 1925. Seedling trees of the wild Manchurian pear from seed collected by N. E. Hansen, of Brookings, S. Dak., a year ago at Hsiaolin. These trees were presented by the botanical garden of the Manchurian Research Society, Harbin.

65668 to 65675. Collected at the Fa Hua Ssu Temple, near Peking, October 29, 1925.

65668. PYRUS sp.

No. 4671. *Ya li*. Scions of a yellow pear 3 inches in diameter, which ripens the middle of September.

65669. PYRUS sp.

No. 4677. *Pai li* (white pear). Scions of a creamy white pear with a delicate pink blush, 2 inches in diameter. The fruits ripen about the end of September.

65670. PYRUS sp.

No. 4680. Scions of a large sugar pear 3 inches in diameter. The fruits are brown dotted with white.

65671. PYRUS sp.

No. 4681. *Tatutze li* (big-stomach pear). The yellow fruits, 3 inches in diameter, ripen in September.

65672. PYRUS sp.

No. 4682. Scions of the *chin chin pa li* (autumn golden handle pear). The fruits are yellow, 2 to 3 inches in diameter, and ripen in September.

65673. PYRUS sp.

No. 4683. The "summer golden handle pear," 2 to 3 inches in diameter, is yellow and ripens in August.

65674. PYRUS sp.

No. 4684. *Suan li* (sour pear). The red fruits are 1½ inches in diameter and ripen the end of September.

65612 to 65684—Continued.

65675. PYRUS sp.

No. 4685. *Chuh li* (festival pear). The fruits are 1½ to 2 inches in diameter, yellow, and ripen in September.

65676. QUERCUS MONGOLICA Fisch. Fagaceae. Oak.

No. 4577. Ertshintientze. October 26, 1925. Scions from young Manchurian oaks growing on the mountains.

65677. RHAMNUS DAURICA Pall. Rhamnaceae.

No. 4631. October 29, 1925. Seeds from a small tree on the sand dunes across the Sungari River to the north of Harbin. The berries are black and the deep-yellow juice is sticky and of a bad flavor. This might be of ornamental value in dry exposed situations.

For previous introduction, see No. 62230.

65678. ROSA DAURICA Pall. Rosaceae. Rose.

No. 4636. Harbin. October 30, 1925. Cuttings of a wild, single red rose obtained in the new Russian cemetery. We sent in hips under No. 3862 [No. 6447].

For previous introduction, see No. 57313.

65679. ROSA RUGOSA Thunb. Rosaceae. Rose.

No. 4590a. October 27, 1925. Plants of what is said to be a double-flowered, wild Manchurian rose, presented by the botanical garden of the Manchurian Research Society. Originally from Mefun.

65680. RUBUS CRATAEGIFOLIUS Bunge. Rosaceae. Siberian raspberry.

No. 4580. October 26, 1925. Plants of a variety found on the mountain side to the north of the Chinese Eastern Railway station, Ertshintientze.

65681. SALIX sp. Salicaceae. Willow.

No. 4563. October 25, 1925. Cuttings of a medium-sized willow growing along the Chinese Eastern Railway right of way, Echo. This may prove hardy, but it will probably need a rather moist situation.

65682. SAMBUCUS sp. Caprifoliaceae. Elder.

No. 4629. Harbin. October 29, 1925. Cuttings obtained from a plant on sand dunes across the Sungari River, north of Harbin; perhaps the red-berried form.

65683. SORBUS sp. Malaceae. Mountain ash.

No. 4572. October 25, 1925. Seeds presented by L. B. Smernoff, Echo. This Sorbus is said to be grown all over Siberia and Russia. After a frost it is used for making preserves which are a little bitter, but not objectionably so.

65684. TILIA sp. Tiliaceae. Linden.

No. 4575. October 26, 1925. Scions of what is said to be the broad-leaved Manchurian linden, obtained from young plants from the mountain top across from the Chinese Eastern Railway station, Ertshintientze. This is one of the best honey plants in northern Manchuria.

65685. SOLANUM TUBEROSUM L. Solanaceae. Potato.

From Reading, England. Tubers presented by Sutton & Sons, through E. L. Schultz, Bureau of Plant Industry. Received December 21, 1925.

Var. *Arran Comrade*. A variety of potato reported to be immune to the wart disease.

65686. AMYGDALUS PEDUNCULATA Pall. (*Prunus pedunculata* Maxim.). Amygdalaceae.

From the Gobi Desert, Mongolia. Seeds collected by Dr. Charles P. Berkey, Palisade, N. Y. Received December 18, 1925.

The fruit of this wild plum is of no consequence as found in the Desert of Gobi, but the shrub is evidently exceedingly hardy. The seeds were collected at the eastern extremity of the Altai Mountains, along drainage courses, at an altitude of about 4,000 feet. (Berkey.)

Introduced for trial as a hardy stock for stone fruits.

65687 and 65688. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Fajardo, Porto Rico. Cuttings presented by the experiment station of the Fajardo Sugar Co., through E. W. Brandes, Bureau of Plant Industry. Received December 23, 1925.

Early-maturing varieties especially recommended for trial in Louisiana by the Fajardo Sugar Co. (Brandes.)

65687. *F. C. 305.*

65688. *F. C. 426.*

65689 to 65692. PICEA spp. Pinaceae. Spruce.

From Kanchow, Kansu, China. Seeds collected by J. F. Rock, Arnold Arboretum, Jamaica Plain, Mass. Received December 22, 1925.

65689. *PICEA* sp.

No. 13304. October, 1925. This species, forming pure stands, ranges from 9,500 to 11,000 feet altitude at Komangssu, northeast of Tankar, northwestern Kansu. The tree, 80 to 120 feet in height and 2 to 3 feet in diameter, has pinkish gray, flaky bark. The needles are glaucous, the branchlets yellow, and the cones long and slender. The branches usually descend to the ground, but in dense forests the branches are very short and drooping.

65690. *PICEA* sp.

No. 13307. October, 1925. This tree occurs in forests of pure stands in a gorge on the northern slope of the North Kokonor barrier range, at altitudes from 9,500 to 11,000 feet. The tree is 90 to 100 feet or more tall, with a straight, gray-barked trunk. The curved, glaucous needles are large, long, and stiff, and the cones are large, oblong, and straight.

65691. *PICEA* sp.

No. 13309. October, 1925. A tree 100 to 120 feet tall and 3 to 4 feet in diameter, with large glaucous needles and large cones. It forms pure stands on Ngusiu, a mountain 18,000 feet high, rising from the North Kokonor barrier range toward the Richthofen Range, and is the only species of *Picea* in this whole region, being found up to an altitude of 11,500 feet.

65692. *PICEA* sp.

No. 13310. October, 1925. A tree 20 to 30 feet tall and 1 foot in diameter, with glaucous, whitish blue needles. This tree is only found in the Hungshiri K'ou Gorge, at an altitude of 8,500 to 9,500 feet, located on the northern slope of the Nanshan of the Richthofen Range. Unlike the *Picea* from Ngusiu, this species occurs in dry rocky situations.

65693. SORBUS ALNIFOLIA (Sieb. and Zucc.) Koch (Pyrus alnifolia Franch.). Malaceae.

From Mefun, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 23, 1925.

No. 4739. November 12, 1925. From a small tree growing on the top of one of the mountains.

For previous introduction, see No. 37582.

65694. CUCUMIS METULIFERUS E. Mey. Cucurbitaceae.

From Cape Town, South Africa. Seeds received through H. L. Shantz, Bureau of Plant Industry. Received December 21, 1925.

This South African "wild cucumber" is native to the Kalahari Desert and the Belgian Congo, where, according to I. B. Pole Evans (see No. 60368), the fruit is considered excellent for eating. The plant is an annual creeper, much branched, and covered with bristly hairs. The dark-green leaves are similar to those of the ordinary cucumber, and the flowers are yellow. The gourdlike fruit, oblong in shape, varies from greenish yellow to red when ripe, is about 5 inches long, and is covered with short hard spines. It is eaten in the same way as the ordinary cucumber.

65695. CITRUS NOBILIS DELICIOSA (Ten.) Swingle. Rutaceae.

Mandarin orange.

From Cadiz, Spain. Bud wood presented by O. W. Barrett, agricultural adviser, Department of Agriculture and Labor, San Juan, Porto Rico. Received November 24, 1925.

No. 6. *Mandarin*. A locally developed variety.

65696. CITRUS AURANTIUM L. Rutaceae. Sour orange.

From Spain. Seeds presented by O. W. Barrett, agricultural adviser, Department of Agriculture and Labor, San Juan, Porto Rico. Received December 2, 1925.

Seville.

65697 to 65701.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters Van Leeuwen, Director, Botanic Garden. Received December 19, 1925.

65697. ANDROPOGON AMBOINICUS (L.) Merr. Poaceae. Grass.

A tall perennial East Indian grass, about 4 feet high, with narrowly linear leaves up to 20 inches in length.

65698. CROTALARIA ALBIDA Heyne. Fabaceae.

According to Hooker (Flora of British India, vol. 2, p. 71) this tropical Indian shrub is 1 or 2 feet high, with numerous slender silky pubescent branches, firm narrow leaves, pale-yellow flowers in short racemes, and oblong pods about half an inch long.

65699. CROTALARIA FULVA Roxb. Fabaceae.

An eastern Asiatic leguminous shrub which as described in Hooker's Flora of British India (vol. 2, p. 81) is stiffly erect, 3 to 5 feet high, with numerous paniculate branches. The silky, narrow leaves are about 4 inches long, and the flowers, in panicles, are about an inch long.

65700. CYMBOPOGON MARTINI (Roxb.) Stapf. (Andropogon martini Roxb.). Poaceae. Rusa-oil grass.

A stout perennial grass, native to northern India, which grows to a height of about 6 feet and has long, very smooth leaves of a rich green color and delicate texture. The perfume known commercially as Rusa oil is obtained from this plant.

For previous introduction, see No. 62802.

65701. PENNISETUM MACROSTACHYUM (Brongn.) Trin. Poaceae. Grass.

As described by Duperrey (Voyage Autour du Monde, Botanique, vol. 2, p. 104), this East Indian grass has ascending stems 2 to 3 feet high, with linear lax leaves 3 inches long, and nodding dense spikes 6 to 8 inches in length.

65702 to 65704. GOSSYPIUM NANKING Meyen. Malvaceae. Cotton.

From Nishigahara, Tokyo, Japan. Seeds presented by H. Ando, director, Imperial Agricultural Experiment Station. Received December 23, 1925.

65702 to 65704—Continued.

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65703. *Cha Wata.*

65705. DIOSCOREA ALATA L. Dioscoreaceae. Greater yam.

From Tongatabu, Tonga Islands. Tubers presented by C. E. Wood, Director of Agriculture, Government of Tonga, at the request of H. A. Cowan, British consul. Received November 7, 1925.

Tubers of a yellow-fleshed yam, introduced for trial in the Gulf States.

65706 and 65707.

From Haiti. Seeds obtained through O. F. Cook, Bureau of Plant Industry. Received December 16, 1925.

65706. CRYPTOSTEGIA sp. Asclepiadaceae.

A tropical climber, with opposite leaves and large, showy reddish flowers. Introduced from Gonaives for testing as a source of rubber.

65707. HEVEA BRASILIENSIS (H. B. K.) Muell. Arg. Euphorbiaceae.

From Bayeux. The "Para" rubber tree, native to Brazil, and now extensively cultivated in the East Indies, has always ranked as the principal and most important rubber-producing tree in the world.

For previous introduction, see No. 64542.

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UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 86



Washington, D. C.

Issued August, 1928

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, JANUARY 1 TO MARCH 31, 1926 (F. P. I. NOS. 65708 TO 66698)

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INTRODUCTORY STATEMENT

NEARLY a thousand introductions are included in the present inventory, representing practically all classes of economic plants and drawn from nearly every corner of the globe.

From the cold region of Manchuria in northeastern China quantities of interesting plant material have continued to come in as the result of agricultural explorations of that Province by P. H. Dorsett. As in the preceding inventory, this material includes locally developed types of practically all of the well-known fruits, vegetables, and cereals, and should be of unusual value to crop specialists and plant breeders in the northernmost parts of the United States.

In the subtropical Province of Kwangtung, southeastern China, F. A. McClure has continued his explorations. Among his collections are seeds of *Eremochloa ophiuroides* (No. 65839), a deep-green, medium coarse, low-growing grass considered to be the best lawn grass for that region. It becomes 3 to 4 inches high, has smooth soft blades, and propagates easily by runners. Previous introductions of this grass have done well in the Gulf coast area and promise well for pasture and lawn purposes. Further introductions are for the purposes of getting a more hardy strain which will continue green throughout the winter period and thus afford a better lawn grass, and also to get more vigorous strains for use in pasture lands.

Material of two local varieties of the Chinese hairy chestnut (*Castanea mollissima*, Nos. 65805 and 65806) was also obtained by Mr. McClure; these will be of special interest for the use of plant breeders who are attempting to find blight-resistant chestnut strains for the United States. Other chestnut introductions included in this inventory will also be of interest for the same reason. Four samples of *Castanea* were sent in from Nanking, China—*C. henryi* (Nos. 65715 and 66036), *C. mollissima* (No. 66037), and *C. sequinii* (No. 66038).

Seeds of an evergreen chinquapin (*Castanopsis hystrix*, No. 65759) were presented by the Lloyd Botanic Garden, Darjiling, India. This is a tall tree with small nuts. Its chief value is as a timber tree for subtropical regions.

Forage-crop specialists will be interested in a number of introductions from Morocco and the Canary Islands which were sent in by David Fairchild during his visits to those countries. Four local strains of vetch (*Vicia sativa*, Nos. 66016 to 66019) were collected in different parts of Morocco. From the same country a number of grasses were obtained, including *Avena barbata* and *A. sterilis* (Nos. 66004 and 66005), *Hyparrhenia hirta* (No. 66008), and *Triticum ovatum* (No. 66015). *Calopogonium mucunoides* (No. 66085), which is being used successfully

in Sumatra and the Malay States as a ground cover and green-manure plant, has already shown, from a previous introduction, its probable value for these purposes in southern Florida. It makes a dense matted growth and thrives under Florida conditions. It needs to be extensively tested in the Gulf States and studied from the standpoint of varietal differences and adaptation.

The Palmyra palm (*Borassus flabellifer*, No. 66649) of India and Ceylon is a most interesting and useful plant. Whether or not it will succeed in the continental United States is yet to be determined, but it is possible that it can be grown in southern Florida and perhaps in other places. The many uses to which it is put in its native habitat make it seem indispensable to the native population. It furnishes food, drink, and fiber, the products in each form being numerous.

Another palm, *Hyphaene thebaica* (No. 66656), known as the Doum palm, is interesting from the fact that it is a most beautiful plant and the only branching palm known.

An unusual series of cotton varieties (*Gossypium* spp., Nos. 66020 to 66026) was received from Italian Somaliland through the director of their agricultural department. These are mostly local varieties developed by the Somaliland natives, and should be of special value for semiarid regions of the Southwest.

Although the Amur grape (*Vitis amurensis*, No. 65960) with its brilliant autumnal coloring is usually considered from the standpoint of an exceptionally hardy ornamental vine, it should be worth the attention of grape growers desiring to obtain vigorous hardy varieties for the northernmost parts of the United States and Alaska.

An Ecuadorian highland relative of the papaya (*Carica candamarcensis*, No. 66651) is reported to have small, acid-flavored fruits used for jams and preserves. This will suggest to subtropical fruit breeders the possibility of hybridization with the idea of varying the flavor and extending the growing area of the common papaya.

Three species and one variety of *Magnolia* (Nos. 66077 to 66080), all native to western China, were received from Léon Chénault, Orleans, France. All of these are practically unknown in American horticulture and promise to be desirable additions to a very popular group of ornamental trees.

As a subtropical ornamental climbing shrub, *Bauhinia galpini* (No. 66148) appears to have considerable merit. It attains a height of 10 or more feet under favorable conditions, and the brick-red flowers appear continuously from spring till fall.

A number of species of the so-called butterfly bushes have become popular ornamentals in those parts of the country not having severe winters. One of the handsomest of the genus (*Buddleia colvilei*, No. 65758), native to the Himalayas, has large loose clusters of crimson flowers. It is practically unknown in American horticulture and should be tested in southern California and the Gulf States.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,
Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., September 17, 1927.

INVENTORY¹

65708. HICORIA CATHAYENSIS (Sarg.) Chun. Juglandaceae. Hickory.

From Nanking, China. Seeds presented by W. Young Chun, Chinese Nurseries. Received February 25, 1926.

This is reported to be the only hickory found in China. As described by Sargent (*Plantae Wilsonianae*, vol. 3, p. 187), it is a tree 40 to 75 feet high, with a gray-barked trunk 1 to 2 feet in diameter and compound leaves about a foot long composed of five to seven pairs of narrowly oval leaflets, pale green above and rusty brown beneath. The thick-shelled nuts, about an inch long, are collected by the Chinese for sale; they are eaten as a sweetmeat, and a clear yellow oil is extracted from them for use in fancy pastry. The tough, strong wood is used for tool handles. The tree grows wild in the mountains of Chekiang, where the native name is Shan-gho-to.

For previous introduction see No. 43952.

65709. PYRUS CALLERYANA Decaisne. Malaceae. Pear.

From Nanking, China. Seeds presented by Prof. J. H. Reisner, College of Agriculture and Forestry, University of Nanking. Received February 25, 1926.

For trial as a stock for cultivated apple and pear varieties.

65710 to 65714. RUBUS spp. Rosa- ceae. Raspberry.

From St. Jean le Blanc, near Orleans, Loiret, France. Plants presented by Edmond Versin. Received March 4, 1926. Notes from Bunyard's Catalog of Fruit Trees, 1924-25.

65710. RUBUS sp.

Heytor.

65711. RUBUS sp.

Lloyd George. This variety is perpetual in habit and keeps a supply of fruit from the earliest season till late autumn. It is vigorous and productive and is in all respects a sterling novelty. Introduced by Mr. Kettle, violet specialist of Corlie Castle.

For previous introduction see No. 62387.

65712. RUBUS sp.

Park Lane. This is the most delicious of all raspberries, and although unexcelled for dessert use it is too soft for market culture. The fruit is round and the drupes large. Introduced by Mr. Pyne.

65710 to 65714—Continued.

65713. RUBUS sp.

Pyne's Royal. The enormous fruits are borne on short trusses, conical in shape, solid, and of good flavor; the canes are very stout and vigorous. This is in our opinion the largest raspberry in cultivation; it was raised by Mr. Pyne and first fruited in 1908. Introduced in 1913.

For previous introduction see No. 52491.

65714. RUBUS sp.

Red Cross. The very early fruits are large and of good flavor, and the canes stout and upright. This new and promising variety was raised by Mr. Pyne.

65715. CASTANEA HENRYI (Skan) Rehd. and Wils. Fagaceae.

From Nanking, China. Seeds presented by W. Young Chun, Chinese Nurseries. Received March 2, 1926.

A Chinese chestnut which, as described in *Plantae Wilsonianae* (vol. 3, p. 196), is a deciduous tree 25 to 90 feet tall, with oblong-lanceolate, long-acuminate leaves, green on both sides. The burs are either solitary or two or three in a bunch and contain usually but one nut.

For previous introduction see No. 65450.

65716. FICUS CARICA L. Moraceae. Fig.

From Beirut, Syria. Cuttings purchased from Dr. A. E. Day, American University of Beirut. Received March 3, 1926.

Kazzi fig. From the district of the Murah, north of Batrun. This fig is said to be rather large, red inside and green without, and to ripen early. (*Day.*)

65717 to 65719.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received February 27, 1926.

65717 and 65718. ACACIA spp. Mimosaceae.

65717. ACACIA DISCOLOR Willd.

A tall, unarmed shrub or small tree, native to southeastern Australia and Tasmania, which bears, in autumn, terminal and axillary clusters of yellow flowers.

For previous introduction see No. 62960.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction, and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

65717 to 65719—Continued.

65718. *ACACIA PENNINERVIS* Sieber.

The bark of this Australian acacia contains 18 per cent of tannic acid, according to Maiden (Useful Native Plants of Australia), and is said to endure comparatively low temperatures. The same authority states that it is a tall shrub or tree with narrow sickle-shaped phyllodia and short racemes of pale-yellow flowers.

For previous introduction see No. 62961.

65719. *HAKEA LAURINA* R. Br. Proteaceae.

A tall Australian shrub, 30 feet or less high, remarkable for its showy crimson flowers. These are in globular heads, about 2 inches in diameter, from which numerous golden yellow styles protrude an inch or so in all directions.

For previous introduction see No. 64483.

65720. *LILIUM SUTCHUENENSE* Franch. Lily.

From Kew, England. Seeds presented by the Royal Botanic Garden, through Prof. E. B. Babcock, University of California, Berkeley. Received March 1, 1926.

A lily from Szechwan, western China, with a stem 3 to 5 feet high, the underground portion running along horizontally before coming to the surface. The thickly scattered leaves are linear and deep green, and the pendulous flowers, up to 20 in number, have reflexed orange-red segments spotted purplish-black and red anthers.

For previous introduction see No. 55609.

65721. *CARICA PAPAYA* L. Papaya.

From Pakse, Laos, Indo China. Seeds presented by G. Ricau. Received March 2, 1926.

Papaya de Ceylon. Introduced for testing in the warmest parts of the United States.

65722 to 65730. *ABIES* spp. Pinaceae.

Fir.

From Kansu, China. Seeds collected by J. F. Rock, Arnold Arboretum, Jamaica Plain, Mass. Received March 2, 1926. Notes by Mr. Rock.

65722. *ABIES* sp.

No. 13423. October, 1925. A tree 40 to 50 feet high, with ascending branches, found in the Maerhku Valley, northern slopes of the Minshan. The needles are glossy on both sides.

65723. *ABIES* sp.

No. 13425. A tree 60 to 80 feet high, found in the Maerhku Valley, northern slopes of the Minshan, at an altitude of 10,000 feet, October, 1925. The needles are long, wiry, and glaucous, the cones 2 inches long, and the scales broad and purplish black.

65724. *ABIES* sp.

No. 13429. From the Maerhku Valley, northern slopes of the Minshan, at an altitude of 10,600 feet, November, 1925. A tree 80 feet high, with long leaves, glossy on both sides; cones $2\frac{1}{2}$ inches or more long, and broad purplish black scales.

65725. *ABIES* sp.

No. 13436. Djrakana, Tebbu country, November, 1925. A tree 80 feet high, growing at an altitude of 10,000 feet. The long needles are glossy whitish beneath, the cones $2\frac{1}{4}$ inches long, and the scales broad with a short protruding mucro.

65722 to 65730—Continued.

65726. *ABIES* sp.

No. 13447. November, 1925. A tree 40 to 50 feet high, found on Mount Koangka, North Tebbu country, at an altitude of 12,000 feet. The curved, emarginate leaves, glaucous beneath, are very large; the cones are 3 inches in length and the scales broad, with a remarkably large foliaceous mucro.

65727. *ABIES* sp.

No. 13448. November, 1925. A tree 40 feet high, growing at an altitude of 11,000 feet on Mount Koangka, North Tebbu country. The needles and cones are smaller than my No. 13447 [No. 65726], but the scales are similar.

65728. *ABIES* sp.

No. 13451. A tree 60 to 80 feet high, found at Djrakana, Tebbu country, at an altitude of 11,000 feet, November, 1925. The leaves are thick, broadly sessile or slightly petiolate, and the cones are 2 inches or more long.

65729. *ABIES* sp.

No. 13454. A tree 80 feet high, found at Djrakana, Tebbu country, at an altitude of 11,000 feet, November, 1925. The large thick leaves are glaucous above and dull green beneath, and the purplish black cones, $1\frac{3}{4}$ inches long, are mucronate.

65730. *ABIES* sp.

No. 13466. A tree 100 to 150 feet high, growing on Lienhoa Mountain, central Kansu, at an altitude of 12,500 feet, October, 1925. The large blunt leaves are glaucous beneath, and the cones, 2 inches or more long, are purplish black.

65731. *HYDNOCARPUS ANTHELMINTHICA* Pierre. Flacourtiaceae.

From Dalat, Anam, Indo-China. Seeds presented by R. Isl. Received March 2, 1926.

The makrabao, as this species is called in Siam, where it is native, is a vigorous, graceful tree 30 to 60 feet high, with large leathery leaves up to a foot in length, pale yellowish above and shining green below. The rose or purplish flowers are in few-flowered racemes, and the large round fruits, about 3 inches in diameter, contain each about 80 oval seeds from which a fatty oil is expressed. In its physical characteristics and chemical composition this oil closely resembles chaulmoogra oil, which is used with great success in the treatment of leprosy. Like the true chaulmoogra oil (obtained from *Taraktogenos kurzi* King), this consists to a large extent of the glyceryl esters of chaulmoogric and hydnocarpic acids, and it may therefore be inferred that it possesses similar medicinal value.

For previous introduction see No. 58592.

65732. *CASSIA NODOSA* Buch.-Ham. Caesalpiniaceae.

From Assam, India. Seeds presented by Mrs. S. A. D. Boggs, Louisville, Ky., through F. L. Mulford, Bureau of Plant Industry. Received March 1, 1926.

Pink and white shower. This magnificent flowering tree is one of the most commonly cultivated ornamental plants in Honolulu, where it is much used for street planting. It is a moderate-sized deciduous tree, with long drooping branches and glossy leaves; during May and June it bears a profusion of beautiful bright-pink rose-scented flowers which are in dense clusters on long stalks. It is native from the eastern Himalayas to the Malay Islands and the Philippines.

For previous introduction see No. 54984.

65733 to 65744. ORYZA SATIVA L.
Poaceae. **Rice.**

From Cawnpore, United Provinces, India. Seeds presented by the economic botanist to the Government. Received March 1, 1926.

Locally developed Indian varieties.

65733. A-1. An early variety of fine quality.

65734. A-2. An early variety of fine quality.

65735. B-4. An early variety of medium quality.

65736. A-57. A late short round variety.

65737. A-74. A late vigorous variety of fine quality.

65738. A-99. A late variety of coarse quality.

65739. A-110. A late vigorous variety of fine quality.

65740. A-111. A late vigorous variety of fine quality.

65741. A-112. A late variety of coarse quality.

65742. C-15. A late variety of medium quality.

65743. F-4. A late variety of coarse quality.

65744. U-13. A late variety of coarse quality.

65745. TRIFOLIUM PRATENSE L. Faba-
ceae. **Red clover.**

From Paris, France. Seeds obtained from N. Cherot, through A. J. Pieters, Bureau of Plant Industry. Received March 3, 1926.

A locally developed French strain.

65746 to 65748. LESPEDEZA spp. Fa-
baceae.

From Fukuoka, Japan. Seeds presented by Dr. Mitsunaga Fujioka, Kyushu Imperial University. Received March 3, 1926.

65746. LESPEDeza BICOLOR Turcz.

A bushy herbaceous Japanese perennial which flowers in early fall, bearing a profusion of rosy purple flowers which practically cover its drooping branches. These branches are sometimes 6 feet long.

For previous introduction see No. 62382.

65747. LESPEDeza BICOLOR INTERMEDIA Maxim.

A variety of the preceding, differing in minor botanical characters.

For previous introduction see No. 62862.

65748. LESPEDeza CYRTBOTRYA Miquel.

A shrub about 6 feet high, resembling *Lespedeza bicolor* in habit, with oval-oblong leaflets and dense clusters of purple flowers. Native to Japan.

For previous introduction see No. 62863.

65749. MELILOTUS ALBA Desr. Faba-
ceae. **White sweet clover.**

From Moosejaw, Saskatchewan, Canada. Seeds obtained from the Saskatchewan Registered Seed Growers, through A. J. Pieters, Bureau of Plant Industry. Received March 5, 1926.

Canadian-grown seed.

65750. GOSSYPIMUM sp. Malvaceae.
Cotton.

From Dar es Salaam, Tanganyika Territory, Africa. Seeds presented by T. H. Marshall, Tanganyika Department of Agriculture. Received March 1, 1926.

A kidney cotton, received as *Gossypium kirkii*, but the seeds do not agree with the description of that species.

65751 to 65759.

From Darjiling, India. Seeds presented by G. H. Cave, Curator, Lloyd Botanic Garden. Received March 4, 1926.

65751. ABIES SPECTABILIS Lambert (*A. webbia* Lindl.). Pinaceae. **Fir.**

An Asiatic fir which, as described by W. J. Bean (Trees and Shrubs Hardy in the British Isles, vol. 1, p. 128), is a tree sometimes 150 feet high in its native home in the Himalayas. The dark-green leaves are arranged in two opposite series so as to leave a V-shaped opening along the top; the individual leaves are 1 to 2 inches long. The cones, about 5 inches long, are violet-purple at first, becoming brown.

For previous introduction see No. 64289.

65752. ACER CAUDATUM Wall. Aceraceae. **Maple.**

A large tree with dark-gray bark and five-lobed red-stemmed leaves $2\frac{1}{2}$ to 5 inches long. The shiny, compact, moderately hard wood is white with a faint pink tinge. This maple is found in the temperate Himalayas at altitudes of 7,000 to 11,000 feet.

For previous introduction see No. 56453.

65753. ACER SIKKIMENSE Miquel. Aceraceae. **Maple.**

A small tree with thin gray bark, native to the eastern temperate Himalayas at altitudes of 7,000 to 9,000 feet. The leaves are undivided and up to 6 inches in length. The wood is a shining gray with distinct annual rings and numerous fine medullary rays.

For previous introduction see No. 56456.

65754 to 65756. BERBERIS spp. Berberidaceae. **Barberry.**

65754. BERBERIS CONCINNA Hook. f.

A low bushy barberry which was discovered in the mountains of Sikkim, India, at an altitude of about 12,000 feet. It is of compact habit, with obovate leaves shining green above and white beneath. The deep-yellow flowers are about one-half inch across, and the red oblong berries are a little more than half an inch long.

For previous introduction see No. 58101.

65755. BERBERIS UMBELLATA Wall.

A hardy subevergreen Himalayan shrub about 3 feet high, with narrow leaves slightly glaucous beneath and umbellike racemes of yellow flowers.

For previous introduction see No. 53645.

65756. BERBERIS WALLICHIANA DC.

A narrow-leaved evergreen barberry from temperate regions in the Himalayas, where it ascends to about 10,000 feet. The shining black-purple berries are produced in dense clusters.

For previous introduction see No. 60639.

65757. BETULA UTILIS Don (*B. bhojpatra* Wall.). Betulaceae. **Birch.**

A tree 40 to 60 feet high, with reddish brown trunk and branches and bark which peels off in papery flakes. It is native to subtropical regions of the Himalayas. The oval, coarsely toothed, sharp-pointed leaves are dark green above and paler beneath, and are 3 inches long. In winter the orange-chocolate color of the twigs is very striking.

For previous introduction see No. 56400.

65751 to 65759—Continued.

65758. *BUDDLEIA COLVILEI* Hook. f. Loganiaceae.

With its large loose terminal clusters of crimson flowers and smooth dark-green leaves this Himalayan relative of the well-known butterfly bush has been called by some authorities the handsomest of the genus. It is a shrub or small tree, 30 to 40 feet high, and has proved hardy in some parts of England and Scotland.

For previous introduction see No. 58904.

65759. *CASTANOPSIS HYSTRIX* A. DC. Fagaceae.
Evergreen chinquapin.

"A lofty tree 80 to 100 feet tall, with trunks 3 feet in diameter, found in pine forests in south-western China, at an altitude of 6,000 feet. The smooth fawn-colored bark is flaky, and the straight ascending branches give the tree an oblong appearance. The burs are in long densely packed spikes, and the involucre are covered with long soft green spines. The small nuts are borne singly or in twos. This is one of the finest forest trees of the region. According to the natives, the wood is very durable and never attacked by insects." (*J. F. Rock, under No. 56768.*)

65760 to 65765. *ORYZA SATIVA* L.
Poaceae. Rice.

From Vercelli, Italy. Seeds presented by Professor Novelli, director, Stazione Sperimentale di Riscicoltura, through Asher Hobson, American delegate, International Institute of Agriculture, Rome. Received March 5, 1926.

65760. *Bertone.*65761. *Chinese Originario.*65762. *Nero Vialone.*65763. *Precoce Vittoria.*65764. *Sancino.*65765. *P-6.*

65766 to 65775.

From Nogent sur Vernisson, Loiret, France. Seeds presented by L. Pardé, directeur des Ecoles des Barres. Received March 5, 1926.

65766. *CHIONANTHUS RETUSA* Lindl. Oleaceae.
Chinese fringe-tree.

A beautiful deciduous hardy ornamental tree bearing in spring a multitude of white deliciously fragrant flowers with handsome fringed petals, followed in the fall by masses of blue berries resembling wild grapes. It is superior to the Virginia fringe tree (*Chionanthus virginica*) because of the whiteness and fragrance of its flowers and its more graceful habit.

For previous introduction see No. 41259.

65767. *CORNUS WALTERI* Wangerin. Cornaceae.
Dogwood.

A Chinese dogwood which, as described by Sargent (*Plantae Wilsonianae*, vol. 2, p. 576) is a tree 40 feet high, with white flowers and blue-black fruits, growing in woodlands at 900 to 2,000 feet altitude in western Hupeh, China.

For previous introduction see No. 52702.

65768. *CORYLOPSIS WILLMOTTIAE* Rehd. and Wils. Hamamelidaceae.

A deciduous shrub, up to 12 feet high, native to central China. The leaves, 1 to 3 inches long, are oval or somewhat heart-shaped with sinuate margins, and the yellow fragrant flowers, which appear in early spring, are in racemes about 3 inches long.

For previous introduction see No. 34591.

65766 to 65775—Continued.

65769. *EXOCHORDA GIRALDII* WILSONII Rehder. Rosaceae.

A slender spreading shrub about 10 feet high, native to central China. The leaves are oblong-elliptic, occasionally serrate, and the pure-white flowers, 2 inches across, are in 6-flowered to 10-flowered racemes.

65770. *LIGUSTRUM ACUTISSIMUM* Koehne. Oleaceae. Privet.

A much-branched shrub, 10 feet or less in height, with spreading and curving branches and very narrow sharp-pointed leaves about 2 inches long. The white flowers are borne in dense nodding panicles about an inch long. This privet is native to Japan and China.

For previous introduction see No. 43852.

65771. *LONICERA FERDINANDI* Franch. Caprifoliaceae. Honeysuckle.

A robust deciduous free-flowering shrub, of spreading, open habit, attaining ultimately a height of 8 or 9 feet. The oval dull-green leaves, up to 4 inches long, are hairy on both sides. The yellow flowers are produced in pairs during June, and the fruit is red. The shrub is native to Mongolia.

For previous introduction see No. 43696.

65772. *LONICERA KOEHENEANA* Rehder. Caprifoliaceae. Honeysuckle.

A western Chinese honeysuckle, generally similar to the Manchurian species (*Lonicera maackii*), but readily distinguished by the slender and much longer yellow flowers. The western species is a vigorous grower, with diamond-shaped leaves 3 or 4 inches long.

65773. *RHAMNUS* sp. Rhamnaceae.

M. V. 0909.

65774. *ROSA BEGGERIANA* Schrenk. Rosaceae. Rose.

A bush 4 to 8 feet tall with prickly, pinnate leaves; the leaflets, usually seven to nine, are elliptic to oblong, smooth and deep green above, generally thickly hairy and bluish green below. The inflorescences are 1 to nearly 50 flowered; the flowers are white, cream colored, or more rarely red. The fruits are very dark red.

For previous introduction see No. 52458.

65775. *SOPHORA DAVIDII* (Franch.) Komarov (*S. viciifolia* Hance). Fabaceae.

A Chinese shrub about 6 feet high, of light and graceful habit, bearing clusters of white and blue flowers. It appears to do well in limestone soil. (Note by David Fairchild, under No. 63382.)

65776 and 65777. *MEDICAGO SATIVA* L. Fabaceae. Alfalfa.

From Pretoria, Union of South Africa. Seeds presented by R. W. Thornton, secretary for agriculture. Received March 5, 1926. Notes by Mr. Thornton.

65776. No. 1. A standard South African variety, typical of what we are now exporting to the United States, Australia, and New Zealand. It is generally known as Cape Provence, being a variety of common lucern developed in the Cape Province and originating from seed of the Provence variety imported from France.

65777. No. 2. *Grootfontein Chinese*, a variety which, though still in the experimental stage, has given very promising results and may in some cases replace Cape Provence, which is the variety at present commonly grown here.

65778 to 65780. AMYGDALUS PERSICA
NECTARINA Ait. Amygdalaceae.**Nectarine.**

From Maidstone, England. Plants purchased from George Bunyard & Co., The Royal Nurseries. Received March 11, 1926. Notes from Catalog of Royal Nurseries, 1924-25.

65778. Darwin. Fruit large, deep orange with red flush; flesh orange, with rich flavor. Matures in September.

65779. Humboldt. Fruit large, bright yellow with a dark-crimson flush and mottlings; flesh orange, very tender and juicy. Matures in August.

65780. Pineapple. Fruit large, deep orange with a rich-crimson cheek; flesh yellow, with a delicious pineapple flavor. Matures in early September.

65781. CYNOMETRA CAULIFLORA L.
Caesalpinaceae.

From Kandy, Ceylon. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 12, 1926.

No. 384. Presented by Dr. A. Nell, February 3, 1926.

As described by Van Nooten (Fleurs et Fruits de Java, pt. 6, 1863), this is a medium-sized tree, with a very irregular, knotty trunk, covered with thick brown bark, marked with numerous grayish and whitish spots. The alternate compound leaves are smooth and light green when mature, but when young are red or pink, or, in some varieties, yellow. From the trunk and branches appear the corymbs of small pink or white flowers. The flattened, roundish, light-brown pods have a fleshy portion which is very palatable when stewed. The tree is a native of Java.

For previous introduction see No. 44895.

65782 to 65784. SOJA MAX (L.) Piper
(Glycine hispida Maxim.) Fabaceae.
Soy bean.

From Matania el Saff, Egypt. Seeds presented by Alfred Bircher, Middle Egypt Botanic Station. Received March 9, 1926.

65782: A large flattened brown bean.

65783: A large flattened creamy-yellow bean.

65784: A small round light-green bean.

65785 to 65788.

From Koslov, Government of Tambov, Russia. Seeds presented by W. M. Konstantinov. Received March 9, 1926. Notes by Mr. Konstantinov.

65785. AMYGDALUS PILOSA Turcz. Amygdalaceae.

A hardy shrub, about 10 feet in height, with pinkish flowers. Native of Mongolia.

65786. CUCUMIS MELO L. Cucurbitaceae.
Melon.

Kulenkamp's Selection. From Rjasanj, Mongolia. Matures in about 120 days.

65787. NICOTIANA TABACUM L. Solanaceae.
Tobacco.

Mitchurin. A yellow tobacco resembling Mahoraea.

65788. ZEA MAYS L. Poaceae.
Corn.

Kulenkamp's Selection. A sugar corn which thrives here in the open.

65789 and 65790.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, division of botany, Department of Agriculture, through W. T. Swingle, Bureau of Plant Industry. Received March 6, 1926.

65789. ALOE STRIATA Haw. Liliaceae.

A low, fleshy plant with a dense rosette of thick, narrowly oblong leaves 1 or 2 feet long, obscurely spotted, and bright-red flowers, about an inch long, in 20 or more heads borne on a stout branched peduncle. Native to South Africa.

65790. HOODIA MACRANTHA Hort. Asclepiadaceae.

A stout fleshy perennial bushy plant, with large showy flowers. Native to South Africa.

65791 and 65792.

From Lamac, Limay, Bataan, Philippine Islands. Seeds presented by the Lamac Experiment Station, through W. T. Swingle, Bureau of Plant Industry. Received March 11, 1926. Notes by P. J. Wester in Food Plants of the Philippines, Bulletin 39, Philippine Bureau of Agriculture.

65791. ANTIDESMA BUNIUS (L.) Spreng. Euphorbiaceae.
Banauac.

"A small, attractive, dark-green, dioecious tree, attaining a height of 10 meters, with dark-green, thick, pointed leaves, and small, dark-red, subacid, well-flavored fruits in racemes like a currant. May be eaten raw and also makes a fair jelly. Widely distributed at low and medium elevations and under varying climatic conditions. Rare in cultivation." (P. 43.)

For previous introduction see No. 47204.

65792. COFFEA LIBERICA Bull. Rubiaceae.
Coffee.

"A small tree of upright growth, native to Africa, blight resistant; adapted to elevations at and below 350 meters, succeeding well even on rather heavy, clayey soils. Average yield approximately 565 pounds to the acre. Requires artificial drying. Properly prepared, the coffee is of good quality and commands a good price." (P. 63.)

For previous introduction see No. 53497.

65793 and 65794. BELOU MARMELOS
(L.) Lyons (Aegle marmelos Correa).
Rutaceae.
Bel.

From Colombo, Ceylon. Seeds collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 12, 1926.

For previous introduction see No. 61762.

65793. No. 330. Obtained at the market, January 23, 1926. A variety with large spherica fruits containing many seeds. In quality this fruit is not so good as the small one with abortive seeds, No. 336 [No. 66338], but it is a good flavor. It is eaten as a tonic for break fast by the people of Ceylon.

65794. No. 331. Obtained at the market, January 23, 1926. A variety with flat fruits, 3½ inches in diameter, containing many seeds. The flavor is good but not so good as No. 336 [No. 66338]. It is eaten with palm sugar as a tonic.

65795. RHAMNUS CRENATA Sieb. and Zucc. **Rhamnaceae.** **Buckthorn.**

From Nogent sur Vernisson, Loiret, France. Seeds presented by L. Pardé, directeur des Ecoles des Barres. Received March 5, 1926.

A hardy shrub, 10 feet or less in height, native from Japan to central China. The leaves are narrowly oblong or oval, sometimes long-acuminate, and the small globular berries, a third of an inch in diameter, change from red to purplish black.

65796. PINUS SYLVESTRIS L. **Pinaceae.** **Scotch pine.**

From Moscow, Russia. Seeds presented by the director, Institute of Applied Botany and New Cultures. Received March 18, 1926.

A Russian variety of Scotch pine.

65797 to 65799. COFFEA spp. **Rubiaceae.** **Coffee.**

From Mayaguez, Porto Rico. Seeds presented by the director, Agricultural Experiment Station. Received January 21, 1926. Notes taken from an article on Coffees of the Dutch Indies (*Tea and Coffee Trade Journal*, vol. 55, p. 417).

65797. COFFEA CANEPHORA Pierre.

The branches of this species are more slender than those of *Coffea robusta* and spread horizontally in the young plant. The leaves are dark green, narrower than in *C. robusta*, and reddish when young. The unripe berries are purple, the ripe berries are bright red and narrowly oblong. This stands drought better than *C. robusta* and is better fitted for higher altitudes.

For previous introduction see No. 53455.

65798. COFFEA QUILLOU P. J. S. Cramer.

Introduced into the East Indies from Libreville, French Congo, in 1901, this was found to be distinct from *Coffea robusta*. The leaves are narrower and brighter green, and the young trees are pyramidal in habit. The berries are bright red, not dark crimson, and oblong. The crop matures later than that of *C. robusta* and under favorable circumstances is larger than that of any other coffee. Under less favorable conditions *C. robusta* is more productive.

For previous introduction see No. 61486.

65799. COFFEA UGANDAE P. J. S. Cramer.

This resembles *Coffea canephora* in many respects, but the smaller, narrower leaves are brighter green and more curled and ribbed. The bean is smaller in size and shape, but shows a purplish tinge and is not sharply striped. The flavor of the coffee is said to be better than that of *C. robusta*.

65800 and 65801. SACCHARUM OFFICINARUM L. **Poaceae.** **Sugar cane.**

From Ensenada, Porto Rico. Cuttings presented by the South Porto Rico Sugar Co., through E. W. Brandes, Bureau of Plant Industry. Received January 2, 1926.

Locally grown varieties.

65800. *G. C. 1480.*

65801. *Ba. 6082.*

65802 and 65803.

From Ronda, Spain. Seeds presented by Mrs. N. Low, at the request of David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received January 2, 1926.

65802 and 65803—Continued.

65802. GENISTA MONOSPERMA (L.) Lam. **Fabaceae.**

An ornamental leguminous shrub, native to Spain, about 10 feet high, with slender grayish branches and small, very narrow leaves. The fragrant white flowers are in short lateral racemes.

For previous introduction see No. 64923.

65803. QUERCUS ILEX L. **Fagaceae.** **Oak.**

The *Ballota* is only a seedling variation of *Quercus ilex* which, in the Balearic Islands, is so much appreciated because of its large sweet acorns that it is grafted on the bitter acorn-bearing form as a stock. In southern Spain I was assured that acorns from a sweet *Ballota* tree would produce sweet acorns. (Fairchild.)

For previous introduction see No. 54659.

65804. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). **Amygdalaceae.** **Peach.**

From Tunbridge Wells, England. Plants obtained from Arthur Charlton & Sons. Received January 8, 1926.

Royal George. Fruit large, pale yellow flushed with blood red; flesh yellow, rich and sweet; matures early in September. (Arthur Charlton & Sons' Catalogue.)

65805 and 65806. CASTANEA MOLLISSIMA Blume. **Fagaceae.** **Chestnut.**

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 4, 1925. Numbered January, 1926.

65805. No. 185. Obtained at Chukkouen, Loh-kongtung, October 30, 1925. *Fung lut* and *hong lut*. The fruits of this variety are distinguished by their gray color, which is due to an almost complete covering of adpressed hairs. This is said to be the most common variety, the most prolific bearer, and the most durable in storage.

65806. No. 186. Obtained at Chukkouen, Loh-kongtung, October 30, 1925. *Fung lut* and *yau lut*. The fruits of this variety are distinguished by their deep brownish red color and their almost complete freedom from the covering of gray hairs which characterizes McClure's No. 185 [No. 65805]. This variety is said to be less common than No. 185 and to bring a slightly better price on the market because of its better appearance, but it is less durable in storage.

65807. SACCHARUM OFFICINARIUM L. **Poaceae.** **Sugar cane.**

From Dal Carmen, Pampanga, Philippine Islands. Cuttings presented by H. B. Ross, through E. W. Brandes, Bureau of Plant Industry. Received January 11, 1926.

A locally grown variety.

65808 to 65816. ZEA MAYS L. **Poaceae.** **Corn.**

From Leningrad, Russia. Seeds presented by the Institute of Applied Botany, through G. N. Collins, Bureau of Plant Industry. Received January 5, 1926.

Locally grown varieties.

65808. No. 1252. 65813. No. 1354.

65809. No. 1255. 65814. No. 1355.

65810. No. 1339. 65815. No. 1471.

65811. No. 1347. 65816. No. 1587.

65812. No. 1348.

65817. CITRUS GRANDIS (L.) Osbeck
(*C. decumana* Murr.). Rutaceae.
Grapefruit.

From Los Banos, Philippine Islands. Bud wood presented by J. E. Higgins, College of Agriculture, through W. T. Swingle, Bureau of Plant Industry. Received January 2, 1926.

Better pummelo C. A. 1427.

65818. CITRUS GRANDIS (L.) Osbeck
(*C. decumana* Murr.). Rutaceae.
Grapefruit.

From Bangkok, Siam. Seeds presented by Yai S. Sanitwongse. Received January 2, 1926.

Seeds of a variety of pummelo called Thongdie, considered by many the best in Siam. It has a thin skin and does not keep as long as the commercial Siamese varieties. (*Sanitwongse.*)

65819 to 65853.

From Kwangtung, China, and the Philippine Islands. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 4, 1926. Notes by Mr. McClure.

65819 to 65822. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Amygdalaceae.

These seeds were obtained from trees on the Canton Christian College farm, July, 1925.

65819. No. 231. *Tim tao.* A comparatively late, single-flowered variety of edible peach. The round white-skinned fruits have sweet white flesh.

65820. No. 232. *Suen tao.* A single-flowered variety of edible, though very sour, fruits. It is the earliest variety known here, ordinarily.

65821. No. 233. *Shau thai tao.* This peach bears medium-sized fruit which the Chinese say is good to eat, but the chief value of this variety is its large double pink fragrant flowers, which make it an exquisite ornamental.

65822. No. 234. *Laan faan tao.* A very early single-flowered variety. The yellow-skinned fruits are the largest of any variety native here, but they are also the sourest. The yellow flesh is dark red near the seed.

65823. ANEMONE VITIFOLIA Buch.-Ham. Ranunculaceae.

No. 239. A very pretty ornamental found in the wild on Santo Tomas (St. Thomas) Mountain, Luzon, Philippine Islands, at an altitude of over 2,000 meters, September, 1925. It is an annual, reaching a height of about 1 meter, much branched, with large, deeply divided leaves and open corymbs of beautiful flowers which are tinted cream and pale pink. These are followed by round fruits which, when ripe, burst forth in abundant seed-bearing cotton.

For previous introduction see No. 49615.

65824. ARTOCARPUS HYFARGYREA Hance. Moraceae.

No. 182. From a tree located at Taishaan, Lohkongtung, Kwangtung Province, belonging to Chung Pooi Chue. *Paak kwai muk: paak kau long.* A beautiful ornamental tree, attaining a height of 10 to 15 meters, with a dense covering of large, soft-textured, dull-green leaves. The curious yellow fruit is about the size of a large orange, irregular in shape and very soft when ripe. In fact, the skin is so very tender and easily broken that the fruit is never shipped fresh. The skin, like that of No. 1 [No. 62009], is covered with a fine stiff short pubescence which is very unpleasant when eating. When an unripe fruit is bruised or the skin is broken it exudes a very sticky white latex. The struc-

65819 to 65853—Continued.

ture of the fruit is typical of the genus, the segments being arranged radically. The texture of the deep orange-yellow flesh is very fine and tender, and the flavor is pleasant, subacid to acid. The fruit is used by the Chinese as follows: Fresh, pickled in salt as an appetizer, and as a drug when dried. The tree is grown from seeds, which are considerably larger than those of No. 1, and it is not grafted.

65825. BOEHMERIA NIVEA (L.) Gaud. Urticaceae. **Ramie.**

No. 223. Obtained from the Linchow District, Kwangtung Province, October, 1925. *Pak chue ma.* An erect, branched monoecious shrubby perennial, 1 to 2 meters high, with hairy branches and petioles, which is propagated here, as a rule, by means of rooted suckers springing up from the base of the plant. It is cultivated in Kwangtung for the excellent fibers which its stem yields, and the well-known Chinese grass cloth is said to be made from the selected fibers.

For previous introduction see No. 63790.

65826 to 65828. CANARIUM ALBUM (Lour.) DC. Balsameaceae.

These seeds were obtained October 31, 1925, from a tree near Chukkouen, Lohkongtung, belonging to Chung Ch'iu Chue.

For previous introduction see No. 61761.

65826. No. 216. *Paak laam; Shaan tau paak laam.* The fruits are subelliptical in longitudinal section and nearly round in cross section. This variety is considered by the Chinese to be the best *paak laam* in point of flavor and quality, and it is consumed fresh to a greater extent than any other. It is multiplied only by grafting.

65827. No. 217. *Paak laam; saam fong paak laam.* The fruits are subobovate in longitudinal section, distinctly triangular in cross section. This variety is considered by the Chinese to rank next to No. 216 [No. 65826] in quality and flavor. The crop is used almost entirely for pickling. Multiplied only by grafting.

65828. No. 218. *Paak laam; wong tsai.* This variety is very similar to No. 216 [No. 65826] in general appearance, but turns yellow sooner. It is considered by the Chinese to be decidedly inferior to No. 216 in flavor and quality. It is not eaten fresh to any great extent, but is used for pickling. Multiplied only by grafting.

65829 to 65834. CANARIUM PIMELA Koen. Balsameaceae.

From a tree belonging to Chung Ch'iu Chue, at Chukkouen, Lohkongtung. October 31, 1925.

65829. No. 209. *Oo laam; heung laam.* The medium-sized fruits, 4.5 centimeters long, are irregularly oblong and stand at the top of the list in flavor and quality. They resemble No. 210 [No. 65830], but are distinguished from these fruits by the less triangular and more pointed shape of the seeds. This variety is propagated only by grafting.

65830. No. 210. *Oo laam; saam fong laam.* A black olive with excellent flavor and quality, no fiber, and a rather tough skin. The fruit is bluntly oblong in shape and somewhat triangular in cross section. This olive, next to No. 209 [No. 65829], is the most highly esteemed by the Chinese. Propagated only by grafting.

65831. No. 211. *Oo laam; taai tsung paak.* This variety, propagated only by grafting, is distinguished from No. 210 [No. 65830] by its more abundant resin and more tender skin.

65819 to 65853—Continued.

65832. No. 212. *Oo laam; shaan laam*. A seedling tree which through neglect was never grafted. All ungrafted trees of this species are known as *shaan laam* (mountain olive). The fruits are long and semipointed, and the seeds are comparatively long and tapering at the end. The resin and oil content seem to be higher than in the other varieties, and the quality is fair.

65833. No. 213. *Oo laam; ah paak oo laam*. This variety, propagated only by grafting, is similar in shape to No. 212 [No. 65832] but slightly larger on the average. The quality is medium, the flavor poor, and the skin is very tough. The seed is long pointed but not so long as that of No. 212.

65834. No. 214. *Oo laam; ngoh ko oo laam*. This is the thickest fleshed variety, but also the most coarse grained and fibrous. The fruits are subovate and the seed very long pointed. Propagated only by grafting.

65835. *DIANELLA CAERULEA* Sims. Liliaceae.

No. 238. From the wild in the pine woods at Baguio, Luzon, Philippine Islands, at an altitude of about 1,500 meters, September, 1925. A herbaceous perennial, 1 to 2 meters high, with its two-ranked linear leaves in distichous arrangement. The under surface of the leaves is scantily covered with a white powdery bloom; the pale blue flowers, with yellow stamens, are borne in terminal corymbs; the fruits are produced rather abundantly, soon turning black and soft, falling to the ground. Spreads by creeping rootstocks.

65836 to 65838. *DIOSPYROS KAKI* L. f. *Diospyraceae*. **Kaki.**

65836. No. 179. From a tree belonging to Chue Tung, at T'oichung, Honam Island, Kwangtung Province. October 26, 1925. *Shui tsz; ma tai yeung tsz*. The globose, light-yellow fruits, 4 to 5 centimeters in diameter, are rather seedy and have firm flesh.

For introduction of bud wood see No. 65582.

65837. No. 180. *Sai paat sin tsz*. A large prolific tree found just outside of Pakshaan, Honam Island, Kwangtung Province. October 26, 1925.

65838. No. 195. From a tree, near Lohfungtsz (Monastery), Lohkongtung, Kwangtung Province, belonging to Chung Ch'iu Chue, October 30, 1925. *Sz man chuen tsz*. This variety is considered very prolific, and the tree is about 20 feet high and has a spread of about 20 feet. The fruits, the size of a goose egg, are subglobular and characterized by a depression which forms a "collar" just below the calyx. This is a rather seedy variety, some fruits having four or five seeds, but seedless ones are often found on this tree. The most striking thing about the fruits is that it is not necessary to ripen them artificially in order to remove the astringency. Ch'iu Chue says that this is the only tree he knows that produces nonastringent fruits.

65839. *EREMOCHLOA OPHIUROIDES* (Munro) Hack. **Poaceae**. **Grass.**

No. 220. From the island of Honam, Kwangtung Province. This variety was growing on rolling land not under cultivation, but constantly pastured and cut over by hunters of fuel. This grass has never been grown artificially here by means of seed, but it can doubtless be grown by following the usual practices observed in sowing lawn grasses.

For previous introduction see No. 58389.

65819 to 65853—Continued.

65840. *FICUS* sp. **Moraceae.**

Fig.

No. 237. A much-branched shrub up to 4 or 5 meters in height, found growing in a sink hole in a limestone formation in the wild near Baguio, Luzon, Philippine Islands, at an altitude of about 5,000 feet, September, 1925. The fruits are small, up to 2 centimeters in diameter, rich purple when ripe, sweet, and of very pleasant flavor. Owing to the tenderness of the skin and its freedom from the roughness which makes the ordinary fig a little difficult for some persons to eat, this fruit may be eaten fresh, in which state it was pronounced delicious by all those who sampled it. The leaves are mostly entire, oblong to lanceolate, acute, with a roughness to the touch which is due to a sparse covering of short, bristly scalelike excrescences. This is probably not of promise as a commercial fig, owing to the smallness of the fruits, the tenderness of the skin, and the scant fecundity; but it may have possibilities as a stock or for breeding purposes.

65841. *GLYPTOSTROBUS PENSILIS* (Staunton) Koch (*Taxodium heterophyllum* Brongn.). **Pinaceae.**

No. 222. From Honam Island, Kwangtung Province. October 1925. *Shui teung*. A beautiful ornamental which is planted along water-courses and ponds in many parts of the Canton delta because of its supposed beneficent geomantic influence. The lumber is considered to be very durable even when exposed to moisture, as it requires more than average moisture in order to thrive, and is therefore used in the construction of boats at Canton, particularly as heavy timbers. This tree is of scientific interest in that it is known only in cultivation. Its native home is supposed to be somewhere in southern China, since it is not known elsewhere. It can be grown as a seedling if not allowed to become too dry.

65842. *IXORA CHINENSIS* Lam. **Rubiaceae.**

No. 187. Obtained in the wild at Kotasaitamshaan, Lohkongtung, Kwangtung Province, October 31, 1925. *Lung shuen fa*. A small, ornamental bush with abundant dense terminal umbels of attractive flame-colored flowers. The leaves are large, shiny, and pale green.

65843. *MELASTOMA SANGUINEUM* Roxb. **Melastomaceae.**

No. 188. From the wild at Kotasaitamshaan, Lohkongtung, Kwangtung Province, November 1, 1925. *Mo nim*. A fine ornamental shrub, attaining a height of 1 to 2 meters, with large shiny red-nerved leaves and large single deep-pink flowers with conspicuous yellow stamens.

65844 to 65845. *PRUNUS SALICINA* Lindl. **Amygdalaceae**. **Japanese plum.**

Obtained at Pakshaan, Honam Island, Kwangtung Province, June, 1925, from Mok Tai T'ong.

65844. No. 226. Contrary to the vernacular name, *hung fa lei* (red-flowered plum), this and all the other varieties known here have white flowers. The fruits, however, when ripe are deep red, almost black, with deep-red flesh and comparatively small seeds to which the flesh adheres very tightly. While very attractive in appearance and good shippers, these fruits are quite sour. This variety is said to be propagated almost entirely by means of root sprouts.

65845. No. 227. The flowers of this variety are white. The fruits are dark red, mottled with fine yellow dots; suture shallow, marked with darker red; apex often with slightly raised appendage; flesh firm, juicy, red, flavor fair. Propagated by grafting. The seedlings of any variety

65819 to 65853—Continued.

of the species used without preference; peach stock tried with success by Mok Tai T'ong.

65846. No. 228. *Foo yan lei*. The fruits are pale yellowish red, mottled with yellow or greenish yellow, subglobular, usually with a slight ridge on one side of the suture which is marked by a line of red deeper than that of the rest of the fruit. The skin is smooth and the flesh bright-red, firm and juicy, acid, clinging tightly to the seed. The two halves of the fruit are usually unequal in size.

65847. No. 229. *Tai oo lei*. Fruits dark red, mottled with greenish yellow; globular in shape; suture slightly raised and marked with a darker red line; flesh firm, juicy, subacid, dark red; seed a cling, rather large in proportion to fruit. Propagated by grafting on seedlings of any variety of this species.

65848. No. 230. *Nooh Ko lei*. Fruits relatively large, oblong; halves often unequal; suture not deep, marked with a thin solid red line; skin smooth, golden yellow, mottled with red; flesh firm, juicy, lemon-yellow when ripe. Propagated by grafting on seedlings of any variety of this species.

65849. *RHODOMYRTUS TOMENTOSA* (Ait.) Wight. Myrtaceae.

No. 202. From the wild at Kotaaitamshaan, Lohkongtung, Kwangtung Province, November 1, 1925. *Nim tsai*. A pretty little shrub bearing abundant pale-pink flowers followed by delicious purplish fruits the size of a gooseberry. The fruits, as well as the under side of the leaves, are covered with fine gray hairs.

For previous introduction see No. 48583.

65850. *RUBUS ELMERI* Focke. Rosaceae.

No. 235. Found in disintegrated limestone residual at Baguio, Luzon, Philippine Islands, at an altitude of 5,000 feet, September, 1925. A very pretty, low, creeping bramble, with dark-green, rugose foliage, bearing its white flowers and yellowish fruits singly in the axils of the leaves at or near the tips of the branches. The stems, buds, petioles, and under surface of the leaves are covered with dense brownish tomentum. The fruits are medium sized, yellowish, very juicy, and somewhat sweet, with a good flavor. The long styles remain attached to the drupels as with our yellow raspberry in the United States. This berry is gathered from the wild and served at some of the boarding places in this region.

65851. *RUBUS FRAXINIFOLIUS* Poir. Rosaceae.

No. 236. Found in disintegrated limestone soil at Baguio, Luzon, Philippine Islands, at an altitude of 5,000 feet, September, 1925. A sturdy, upright, little-branched bramble, with a stiff stem up to 3 or 4 meters high and 2 to 3 centimeters in diameter under favorable conditions. The stems and branches are red, armed with short, sharp, recurved hooks. The white flowers are followed by large, attractive bright-red fruits, borne in large clusters. The drupels are small and numerous, resulting in a rather seedy, comparatively dry fruit.

For previous introduction see No. 56273.

65852 and 65853. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

65852. No. 224. From Nodoo, Hainan Island, China. *Tung tau; siu tau*. A small black bean usually planted in December and grown during the winter months.

65853. No. 225. From Nodoo, Hainan Island, China. *Ch'un tau; tai tau* (spring bean; big bean). A spring variety planted in May.

65854 to 65859.

From Harbin, Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 4, 1926.

65854. *ABUTILON THEOPHRASTI* Medic. (*A. avicennae* Gaertn.). Malvaceae.

No. 4692. November 8, 1925. Seeds from plants growing in the wild. This variety is generally known here as "Manchurian jute" and is found both wild and cultivated.

For previous introduction see No. 54748.

65855. *AMYGDALUS DAVIDIANA* (Carr.) Zabel (*Prunus davidiana* Franch.). Amygdalaceae.

No. 4670. Obtained at the Fa Hua Ssu Temple, near Peking, October 29, 1925. May prove valuable as stock.

65856 and 65857. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

Obtained at the Fa Hua Ssu Temple, near Peking, October 29, 1925.

65856. No. 4663. "Red Flowering peach," a freestone variety which ripens the middle of September and is said to fruit in pairs.

65857. No. 4670. This peach may prove valuable as a stock.

65858 and 65859. *CASTANEA MOLLISSIMA* Blume. Fagaceae. Chestnut.

65858. No. 4666. Obtained at the Fa Hua Ssu Temple, near Peking, October 29, 1925. *Pai luli tze* (white dew chestnut). The diameter of the nuts is less than an inch; they mature early in September.

For previous introduction see No. 65620.

65859. Nos. 4667 and 4668. Mixed seeds of *erh luli tze* (second-crop chestnut) and *han luli tze* (cold-dew chestnut) obtained at the Fa Hua Tze Temple near Peking, October 29, 1925. Ripen the last of September.

65860. *ILEX CORNUTA* Lindl. and Paxt. Aquifoliaceae. Chinese holly.

From Ichang, China. Seeds presented by Rev. A. S. Cooper, American Church Mission. Received May 22, 1923. Numbered January, 1926.

A holly with spiny, dark-green, glossy leaves, which in winter is loaded with clusters of scarlet berries. While it does not make as symmetrical a crown as does the native Christmas holly, *Ilex opaca*, its attractive foliage and bright-colored fruits render it a fine winter ornamental for the southern half of the United States.

For previous introduction see No. 32945.

65861 to 65880.

From Harbin, Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 4, 1926. Notes by Mr. Dorsett. Chestnut.

65861. *CASTANEA MOLLISSIMA* Blume. Fagaceae.

No. 4669. From the Fa Hua Ssu Temple, near Peking. *Hu chao li tze* (tiger-paw chestnut). Seeds of this same chestnut were sent in under No. 790 [No. 61834], and scions under No. 1677 [No. 62257].

65862. *CHAETOCLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.

No. 4697. November 8, 1925. Obtained at Echo.

65863. *CUCURBITA MAXIMA* Duchesne. Cucurbitaceae.

No. 4705. November 8, 1925. A good-sized, dark-red variety with yellow flesh.

65861 to 65880—Continued.

65864. *ELSHOLTZIA PATRINII* (Lepechin) Garcke
(*E. cristata* Willd.). Menthaceae.

No. 4700. November 8, 1925. From Echo.

For previous introduction see No. 29928.

65865. *EVONYMUS* sp. Celastraceae.

No. 4690. From Echo, October 8, 1925.
This may prove of value as an ornamental.

65866. *FRAXINUS* sp. Oleaceae. Ash.

No. 4730. November 10, 1925. From the Ta
Lu Hua Temple, Taluhua Mountains.

65867. *GLEDITSIA HETEROPHYLLA* Blume. Cae-
salpiniaceae.

No. 4708. November 8, 1925. Collected in
the Western Hills, northwest of Peking. This
may be the same as No. 653 [No. 61922].

65868. *GLYCYRRHIZA* sp. Fabaceae.

No. 4698. November 8, 1925. A rank-grow-
ing plant with heavy seed pods and spiny cap-
sules, found in Echo.

65869 and 65870. *JUGLANS REGIA* L. Juglan-
daceae. Walnut.

From the Fa Hua Ssu Temple, near Peking,
October 29, 1925.

65869. No. 4664. *Chiu tze ho tao* (ornament
walnut). A very hard-shelled, irregular-
shaped variety which ripens at the end of
August.

65870. No. 4665. A thin-shelled variety
which ripens at the end of August.

65871. *LESPEDEZA* sp. Fabaceae.

No. 4691. November 8, 1925. A herbaceous
plant from Echo.

65872. *LESPEDEZA* sp. Fabaceae.

No. 4701. November 8, 1925. From Echo.

65873. *NICOTIANA* sp. Solanaceae. Tobacco.

No. 4695. November 8, 1925. Chinese cul-
tivated tobacco grown in the vicinity of Echo.

65874. *PERILLA FRUTESCENS* (L.) Britton (*P.*
ocymoides L.). Menthaceae. Perilla.

No. 4703. November 8, 1925. From Echo.

For previous introduction see No. 62187.

65875. *PINUS KORAIENSIS* Sieb. and Zucc.
Pinaceae. Pine.

No. 4706. Seeds obtained at the market,
Harbin, November 8, 1925, where they had been
shipped in from the mountains of the surround-
ing region.

For previous introduction see No. 65501.

65876. *POLYGONUM DIVARICATUM* L. Poly-
onaceae.

No. 4696. November 8, 1925. From Echo.

65877. *PRUNUS* sp. Amygdalaceae. Plum.

No. 4670½. A variety which may be valuable
for stock; good fruiting types also may appear.
From the Fa Hua Ssu Temple, near Peking.

65878. *PYRUS BETULAEFOLIA* Bunge. Malaceae.
Pear.

No. 4723. Nung Lo Tomb. October 18, 1925.
From the same tree as the seeds sent in under
No. 865 [No. 62195]. This tree is a considerable
distance from any other pear tree, which perhaps
accounts for so few seeds in the fruit.

65861 to 65880—Continued.

65879. *PYRUS* sp. Malaceae. Pear.

No. 4724. Wild pears obtained in the Peking
market, October 21, 1925, where they had been
shipped in from Shaho, north of Peking. They
may prove of interest as stock.

65880. *SORBUS* sp. Malaceae. Mountain ash.

No. 4689. November 3, 1925. An ornamental
red-fruited tree growing near Achibe station of
the Chinese Eastern Railway. The berries are
borne in clusters similar to elderberries and after
frost may be made into jam. Seeds were sent in
under No. 4572 [No. 65683].

65881 to 65899. *ORYZA SATIVA* L.
Poaceae. Rice.

From Leningrad, Russia. Seeds presented by
A. Kol, chief of bureau of introduction and
information, Institute of Applied Botany and
New Cultures, through C. E. Chambliss,
Bureau of Plant Industry. Received January 5,
1926. Locality notes by Mr. Kol.

65881. No. 1. *Tchaltik*. From Armenia.

65882. No. 3. *Tchaltik*. From Aserbejdshan,
Nuchimsky District.

65883. No. 4. *Andabru*. From Aserbejdshan,
Baku Government, Lenkoransky District.

65884. No. 7. *Styk*. From Aserbejdshan, Baku
Government, Lenkoransky District.

65885. No. 8. *Shala*. From Turkestan, Dusety
Su District.

65886. No. 20. *Shala*. From Samarkand Dis-
trict.

65887. No. 21. *Shala*. From Samarkand Dis-
trict.

65888. No. 22. *Shala*. From Samarkand Dis-
trict.

65889. No. 37. *Shala* (China). From Turke-
stan.

65890. No. 101. From Turkestan.

65891. No. 103. *Shala*. From Turkestan,
Dsheti-Su.

65892. No. 105. *Shala*. From Turkestan,
Samarkand District.

65893. No. 110. *Shala*. From Turkestan.

65894. No. 113. *Gidej*. From Aserbejdshan,
Lenkoransky District.

65895. No. 116. *Andabru*. From Aserbejdshan,
Lenkoransky District.

65896. No. 262. *Arna Shala*. From Turkestan,
Samarkand District.

65897. No. 467. *Shaly*. From Turkestan, Sam-
arkand District.

65898. No. 506. *Berindsh*. From Estate Kara-
kar, near Erivan, Armenia.

65899. No. 508. From Estate Karakar, near
Erivan, Armenia.

65900 and 65901. *GOSSYPIUM NAN-
KING* Meyen. Malvaceae. Cotton.

From Kungchuling, Manchuria. Seeds presented
by Dr. K. Kanda, director, Kungchuling
Agricultural Experiment Station. Received
January 6, 1926. Notes by Doctor Kanda.

Local strains produced in 1925 at the Hsiung-
yaocheng Agricultural Experiment Branch Station
of the South Manchuria Railroad Co., near Liao-
yang, Manchuria.

65900 and 65901—Continued.

65900. *Kuro tane* (Manchurian black seed).65901. *Shiro tane* (Manchurian white seed).65902. *CARICA PAPAYA* L. Papaya-
ceae.

From Vera Cruz, Mexico. Seeds presented by C. A. Purpus. Received January 7, 1926.

The papaya from Monserrate is an excellent variety, grown in sandy soil. It is monoecious, not dioecious. The fruit is orange red inside and very sweet. (*Purpus*.)

65903 and 65904. *LESPEDEZA* spp.
Fabaceae.

From Fukuoka, Japan. Seeds presented by Dr. Mitsunaga Fujioka, Kyushu Imperial University. Received January 9, 1926.

65903. *LESPEDEZA JUNCIFOLIA* SERICEA (Miquel)
Forbes and Hemsl.

Medohagi. A Japanese bush clover which develops into a shrubby plant about 3 feet high, with dense foliage and white flowers.

For previous introduction see No. 59378.

65904. *LESPEDEZA STRIATA* (Thunb.) Hook. and
Arn.

Yahazuso. A locally developed Japanese strain.

For previous introduction see No. 62383.

65905. *COFFEA QUILLOU* P. J. S. Cramer.
Rubiaceae. Coffee.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, director, Bureau of Agriculture. Received January 9, 1926.

For previous introduction and description see No. 65798.

65906 to 65961.

From Harbin, Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 8, 1926.

65906. *ABIES HOLOPHYLLA* Maxim. Pinaceae.
Manchurian fir.

No. 4758. November 21, 1925. A tall, handsome Manchurian fir, eventually 100 feet or more in height, with stout spreading or ascending branches and dark-green foliage.

65907. *ACANTHOPANAX SENTICOSUM* (Rupr.)
Harms. Araliaceae.

No. 4756. November 21, 1925. A very spiny shrub bearing palmate-divided leaves and having at the end of its long shoots small umbels of black berries. Grows generally in dense shade, and may be of use as a park or garden shrub or as an undergrowth beneath tall trees. (*Frank N. Meyer*, under No. 57274.)

65908. *ACANTHOPANAX SESSILIFLORUM* (Rupr.)
and Maxim.) Seem. Araliaceae.

No. 4767. November 21, 1925. A vigorous deciduous shrub which forms a large spreading bush 10 feet high, with three-lobed or five-lobed, irregularly toothed leaves. The flowers, brownish purple with yellow protruding stamens, are packed closely in a spherical almost stalkless cluster about an inch in diameter and appear in July. The inky black berries are in round clusters about an inch thick. This is one of the hardest shrubs introduced from northern China, where it is native.

For previous introduction see No. 58603.

65909 to 65911. *ACER* spp. Aceraceae. Maple.

November 21, 1926.

65906 to 65961—Continued.

65909. *ACER BARBINERVE* Maxim.

No. 4757. A shrubby maple, native to Manchuria, with coarsely toothed five-lobed leaves.

65910. *ACER GINNALA* Maxim.

No. 4751. A small tree or large shrub of bushy habit, with three-lobed, slightly heart-shaped leaves and very fragrant white flowers in short panicles, appearing in May. This maple is nearly allied to *Acer tataricum*, but differs markedly in shape of leaf. The foliage turns a beautiful red before falling, the species being one of the best for autumn coloring. It is native to China, Manchuria, and Japan.

For previous introduction see No. 42310.

65911. *ACER UKURUNDENSE* Trautv. and
Meyer (*A. spicatum* Lam.).

No. 4762. A small Manchurian tree with coarsely toothed, five-lobed or seven-lobed leaves.

For previous introduction see No. 30845.

65912. *ALNUS HIRSUTA* Turcz. Betulaceae.
Alder.

No. 4752. November 21, 1925. A rather handsome medium-sized tree, native to Japan and Manchuria, with rounded-elliptic, slightly lobed leaves, hairy beneath.

65913. *ABALIA CHINENSIS MANDSHURICA* (Rupr.)
Rehder. Araliaceae.

No. 4763. November 21, 1925. This is a small, hardy Manchurian tree resembling *Aralia spinosa* (Hercules club), but more treelike, with few spines. It does not form many branches, but the large bipinnate leaves cast a good shade. The greenish white flowers are borne in large panicles, and the berries are dark red when ripe, producing a very pleasing effect.

For previous introduction see No. 45573.

65914 to 65916. *AVENA SATIVA* L. Poaceae.
Oats.

From the Agricultural Experiment Station, Harbin, November 22, 1925.

65914. No. 4805. *Dreger yellow*, No. 37.65915. No. 4806. *Dreger white*, No. 36.65916. No. 4807. *Strube*, No. 40.65917. *BETULA FRUTICOSA* Pall. Betulaceae.
Birch.

No. 4815. November 21, 1925. A shrub, about 15 feet high, with oval-elliptic leaves 2 inches long. Native to Manchuria and Siberia.

For previous introduction see No. 37007.

65918. *BETULA PLATYPHYLLA* Sukaczew. Betu-
laceae. Birch.

No. 4753. November 21, 1925. A Siberian birch with broadly ovate, acuminate leaves 2 inches wide and long.

65919. *CANNABIS SATIVA* L. Moraceae. Hemp.

No. 4802. November 22, 1925. A local variety, No. 2, from the Agricultural Experiment Station, Harbin.

65920. *CARPINUS CORDATA* Blume. Betulaceae.
Hornbeam.

No. 4755. November 21, 1925. A handsome hardy tree 40 feet or less in height, with oval-oblong, acuminate leaves 3 to 6 inches long. Native to Japan and Manchuria.

65921. *CAULOPHYLLUM ROBUSTUM* Maxim. Ber-
beridaceae.

65906 to 65961—Continued.

No. 4789. November 21, 1925. An ornamental perennial herb, native to eastern Asia, with panicles of small yellow-green flowers, succeeded by blue berries.

65922. *CELASTRUS FLAGELLARIS* Rupr. Celastraceae.

No. 4772. November 21, 1925. A shrubby Chinese vine, quite hardy, with persistent spiny stipules, small oval leaves, and small axillary fruits with crimson arils.

For previous introduction see No. 63345.

65923 and 65924. *CHAETOCHELOA ITALICA* (L.) Scribn. (*Selaria italica* Beauv.). Poaceae. Millet.

November 22, 1925. From the Agricultural Experiment Station, Harbin.

65923. No. 4800. A small yellow-seeded variety.

65924. No. 4801. A small shiny yellow variety.

65925. *CLEMATIS BREVICAUTATA* DC. Ranunculaceae.

No. 4774. November 21, 1925. A vigorous climbing vine, native to China, with pinnate or bipinnate, coarsely toothed leaves and axillary panicles of white flowers.

65926. *EUCONYMUS ALATUS* (Thunb.) Rupr. Celastraceae.

No. 4764. November 21, 1925. A spreading shrub about 8 feet high native to China and Japan. The sharply toothed elliptic leaves are about 2 inches long, and the yellowish flowers are in small clusters. The capsules are purplish.

For previous introduction see No. 37479.

65927. *FAGOPHYM VULGARE* Hill (*F. esculentum* Moench). Polygonaceae. Buckwheat.

No. 4804. From the Agricultural Experiment Station, Harbin, November 22, 1925.

65928 to 65934. *HORDEUM* spp. Poaceae. Barley.

From the Agricultural Experiment Station, Harbin, November 21, 1925.

65928 and 65929. *HORDEUM DISTICHON* PALMELLA Harlan. Two-rowed barley.

65928. No. 4778. *Moravia*, No. 57.

65929. No. 4781. *Tschermak*, No. 53.

65930. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.

No. 4783. *Mukden* black barley, No. 15.

65931 to 65934. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

65931. No. 4779. *Ganazay HIV*, No. 40.

65932. No. 4780. *Imperial*, No. 56.

65933. No. 4782. *Vladivostok*, No. 19.

65934. No. 4784. *San toku*, No. 13.

65935 and 65936. *LINUM USITATISSIMUM* L. Linaceae. Flax.

From the Agricultural Experiment Station, Harbin, November 22, 1925.

65935. No. 4798. *Belgium*, No. 11.

65936. No. 4799. *Russian*, No. 7.

65937. *LONICERA MAACKII* (Rupr.) Herd. Caprifoliaceae. Honeysuckle.

No. 4766. November 21, 1925. A bush honeysuckle, native to northeastern China, becoming about 10 feet high with widely spreading branches and dark-green leaves which are downy on both surfaces. The pure-white

65906 to 65961—Continued.

flowers, an inch in diameter, are produced in pairs on the upper side of the branches. The fruits are red.

For previous introduction see No. 57300.

65938. *LONICERA BUPRECHTIANA* Regel. Caprifoliaceae. Honeysuckle.

No. 4770. November 21, 1925. A Manchurian shrub, 10 feet high, with dark-green leaves, grayish pubescent beneath, and pure white flowers followed by red or yellow fruits.

For previous introduction see No. 53715.

65939. *MAACHIA AMURENSIS* Rupr. Fabaceae.

No. 4784. November 21, 1925. A small tree, native to eastern Asia, with orange-brown bark, dull-green compound leaves, and short erect clusters of small yellowish white flowers.

For previous introduction see No. 57301.

65940 and 65941. *ORYZA SATIVA* L. Poaceae. Rice.

Upland rice from the Agricultural Experiment Station, Harbin, November 21, 1925.

65940. No. 4785. *Kon tou*, No. 4.

65941. No. 4786. *Tieh ling*, No. 16.

65942. *PICEA JEBOENSIS* (Sieb. and Zucc.) Carr. Pinaceae. Spruce.

No. 4773. November 21, 1925. A tall Siberian spruce, up to 100 feet in height, with slender horizontally spreading branches, dark-gray bark, and silvery white leaves, dark green below.

For previous introduction see No. 52653.

65943. *RHAMNUS DAVURICA* Pall. Rhamnaceae. Dahurian buckthorn.

No. 4768. November 21, 1925. A shrub or small tree up to 30 feet in height, with more or less arching branches which are often thornless. The oblong or oval leaves are slender pointed and finely veined. The thick fruits, in dense clusters, are about one-fourth of an inch in diameter. This species is native to northeastern China and Siberia and is of value for rough shrubberies.

For previous introduction see No. 57311.

65944. *ROSA DAVURICA* Pall. Rosaceae. Rose.

No. 4771. November 21, 1925. A Manchurian shrub closely related to the cinnamon rose, with straight slender prickles, smaller double serrate leaflets, purple flowers, and orange scarlet fruits. (*H. C. Shedd*, under No. 5242.)

65945 to 65955. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

November, 1925. From the Agricultural Experiment Station, Harbin.

65945. No. 4787. *Huang tou*, No. 8. An attractive yellow bean of good size.

65946. No. 4788. *Tai hei ichi Huang tou*, No. 26. A fine large yellow bean, practically round, with a large black eye.

65947. No. 4789. *Schuan Huang tou*, No. 50. An almost round bean of good size, with a reddish brown eye.

65948. No. 4790. *Tai hei tou*, No. 123. A good-sized, almost round, black bean.

65949. No. 4791. *Sao hei tcher Huang tou*, No. 40. A medium-sized, almost round, yellow bean with a dark-brown eye.

65950. No. 4792. *Thyane Sam tao*, No. 74. An almost round yellow bean with a deeper colored eye.

65906 to 65961—Continued.

65951. No. 4793. *Dichou lau tou*, No. 180. An almost round black and brown bean, of good size.

65952. No. 4794. *Lw tuiang tou*, No. 100. A large green roundish bean.

65953. No. 4795. *Pheo litchin tou*, No. 104. A medium-sized dark-green, almost round bean with a black eye.

65954. No. 4796. *Tha lau za tou*, No. 143. A medium-sized brown bean, almost round, with a lighter colored eye.

65955. No. 4797. *Tchali tcher huang tou*, No. 80. An oblong yellow bean of good size, with a brown eye.

65956 to 65958. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

November 21, 1925. From the Agricultural Experiment Station, Harbin.

65958. No. 4775. *Sapporo*, No. 80. An attractive hard wheat.

65957. No. 4776. *Tafogin*, No. 81.

65958. No. 4777. *Muriya* × *Khapli*.

65959. *VIBURNUM BUREAETICUM* Regel and Herd. Caprifoliaceae.

No. 4765. November 21, 1925. A northern Chinese species allied to the Wayfaring tree (*Viburnum lantana*); the flowers are produced in dense cymes 2 inches across, and the fruits are ovoid and bluish black.

For previous introduction see No. 58807.

65980. *VITIS AMURENSIS* Rupr. Vitaceae. Amur grape.

No. 4750. November 21, 1925. A strong-growing deciduous vine somewhat similar in habit to *Vitis vinifera*. It is worth growing as an ornamental for its vigorous habit and for the fine crimson and purple autumn hues of its foliage. It is native to Chosen (Korea) and northeastern China.

For previous introduction see No. 57367.

65961. *ZEA MAYS* L. Poaceae. Corn.

No. 4803. November 22, 1925. A hard red flint corn, with a yellow tip, from the Agricultural Experiment Station, Harbin.

65962. *GENISTA SPHAEROCARPA* Lam. Fabaceae.

From Demnat, Morocco. Seeds presented by Sergeant Prot, Bureau des Renseignements, at the request of David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received January 12, 1926.

A charming, drooping, desert shrub covered with delicate, brilliant yellow flowers somewhat resembling small orchids.

For previous introduction see No. 64927.

65963. *PHYTOLACCA DIOICA* L. Phytolaccaceae. Ombu.

From Santa Barbara, Calif. Seeds presented by E. O. Orpet, superintendent of parks. Received January 14, 1926.

An evergreen tree, native to South America, which develops eventually a thick trunk and a large crown. The slender-stemmed leaves are elliptic to oval, and the small, greenish white, inconspicuous flowers are in pendulous racemes. The chief value of this tree is as an ornamental and for shade; in its native country it is called *bella sombra* (handsome shade). It has proved hardy at Santa Barbara, Calif., not even losing its leaves in cold weather.

For previous introduction see No. 48975.

65964. *ORYZA LATIFOLIA* Desv. Poaceae. Rice.

From Assam, India. Seeds obtained from the director of agriculture, Assam, through Rai Sahib L. Jai Chand Luthra, officiating economic botanist to the Punjab Government, Lyallpur. Received January 16, 1926.

A perennial wild rice distributed through parts of tropical Asia, Africa, and America. The tufted stems become 6 to 8 feet high, and the plant is said to flower and produce seeds throughout the year. The smooth leaves are 1 or 2 feet long and about an inch wide, and the erect spike is 2 to 4 inches long.

For previous introduction see No. 50491.

65965. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Warsaw, Poland. Seeds purchased through R. Y. Jarvis, American consul. Received January 16, 1926.

Locally produced seeds from Poland.

65966 to 65970.

From Spain. Seeds collected by M. Sharpe, Vacaville, Calif. Received January 18, 1926.

Locally developed strains, collected along the Andarax River in the Province of Almería.

65966. *AMYGDALUS COMMUNIS* L. (*Prunus amygdalus* Stokes). Amygdalaceae. Almond.

65967. *CASSIA* sp. Caesalpiniaceae.

65968. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

A winter melon.

65969. *DAUCUS CAROTA* L. Apiaceae. Carrot.

A black carrot.

65970. *RAPHANUS SATIVUS* L. Brassicaceae. Radish.

A huge radish of fine quality.

65971. *LILIUM CENTIFOLIUM* Stapf. Liliaceae. Lily.

From Ardgowan, Inverkip, Renfrewshire, Scotland. Bulb presented by Lady Alice Shaw Stewart. Received January 21, 1926.

This Chinese lily was originally discovered by Reginald Farrer in a little garden at Sikou, Kansu, in 1914, according to the Botanical Magazine (pl. 8960). It is described as follows: The stem, densely leafy and somewhat glaucous, is up to 7 or 8 feet high, arising from a slightly depressed bulb about 3 inches in diameter. The numerous leaves are dark green above and paler below, linear or linear-lanceolate, and up to 18 inches long. The sweet-scented flowers, 6 to 18 in number, are arranged in a short almost umbellike raceme. The individual flowers are 6 inches long and about 4 inches across the mouth. Within, the perianth is pure white, blending into lemon yellow in the throat; the outer segments are richly flushed with dark purple, while the broader inner segments are greenish with deep brownish purple midribs. The anthers are rusty red.

For previous introduction see No. 61748.

65972 to 66001.

From Saonara, Padova, Italy. Plants purchased from Fratelli Sgaravatti. Received January 21, 1926. Notes from Fratelli Sgaravatti's catalogue.

65972 to 65979. *AMYGDALUS PERSICA* NECTARINA Ait. Amygdalaceae. Nectarine.

65972. *Lord Napier*. Large, red and green, with juicy greenish subacid flesh of first quality. Ripens in July and August.

65973. *Bianca*. Medium sized, white or sometimes pinkish; flesh white, melting, sugary, aromatic. Ripens in August.

65972 to 66001—Continued.

65974. *De Coosa*. Very large, red; flesh white; an excellent variety. Ripens in July.

65975. *Fertile del Poitou*. Very large, yellow mottled with purple, pink on exposed side; flesh white, fine, juicy, sweet, aromatic; pit small. Ripens in August.

65976. *Galopin*. Medium sized, waxy white, sometimes pink; flesh greenish white, sweet, and especially aromatic. Ripens in September.

65977. *Gialla di Padova*. Medium sized, yellow; flesh firm, yellow, aromatic, with an apricotlike flavor; quality excellent. Ripens in June.

65978. *Regina Vittoria*. Large, violet-carmine, flesh white, sugary, acidulous. Ripens in July.

65979. *Vineuse Henri Monicourt*. Medium sized, with smooth, shining, reddish violet skin; flesh blood red, whitish near pit, sugary, juicy, aromatic.

65980 to 66001. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

65980. *A mondoria dulce*. Medium sized, pale yellow, marked with red; flesh moderately tender, sweet. Ripens in July.

65981. *Angoumis*. Large, orange-yellow shaded with carmine, spotted with brown; flesh pinkish, juicy, aromatic. Ripens in July and August.

65982. *Bianco de Carpentras*. Large; flesh orange-yellow, of exquisite flavor. Ripens in July.

65983. *D' Alessandria*. Medium sized, sometimes large, orange-yellow shaded pink and marked with carmine; flesh firm, juicy, aromatic; of first quality. Ripens in June.

65984. *Di Breda*. Medium sized, pale yellow shaded with bright pink. Ripens in July.

65985. *Di Sant' Ambrogio*. Very large, skin firm, pale, yellow shaded with pink; flesh very sweet and with a delicate aroma. Ripens in July.

65986. *Di Versailles*. Very large, pale yellow, carmine on exposed cheek; flesh yellow, melting, aromatic. Ripens in July.

65987. *Gloire d'Auvergne*. A robust and prolific variety, excellent for preserving. Ripens in July.

65988. *Grosso Blanco presose d'Auvergne*.

[Large, white, early maturing.]

65989. *Lever du Soleil* [Sunrise]. Large, of good quality, and early maturing.

65990. *Liaband*. Large, pale yellow; flesh transparent, juicy, and aromatic. Ripens in July.

65991. *Particolare*. Large, yellow shaded with pink; flesh yellow, sweet. Ripens in July.

65992. *Paviot*. Rather large; skin orange-yellow and carmine; flesh fine, melting, aromatic. Ripens in July and August.

65993. *Persicina*. Large, orange-yellow; flesh yellow-red, fine, of exceptional flavor. Ripens in July.

65994. *Pesca di Nancy*. Large, orange-yellow and pale carmine; flesh yellow, tender, very sweet. Ripens in July and August.

65995. *Precoce di Boulbon*. Large, with fine, buttery flesh. Ripens in July.

65972 to 66001—Continued.

65996. *Precoce d'Italia*. Small, yellow shaded with orange; flesh whitish, fine, sweet, slightly aromatic. Ripens in June.

65997. *Reale*. Medium sized, downy, yellowish white, orange on exposed cheek; flesh melting, very fine. Ripens in June and July.

65998. *Rosseggiante*. Rather large, carmine-yellow; flesh fine and aromatic. Ripens in July.

65999. *Rosso grosso*. Large, reddish; flesh melting. Ripens in June and July.

66000. *Souvenir d'Amic*. Large, yellow shaded with brown; flesh melting, of excellent flavor. Ripens in June.

66001. *Zuccherino di Holub*. Large, oblong, reddish yellow; flesh fine, very sweet. Ripens in July.

66002 to 66019.

From the Mediterranean region. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received January 13, 1926.

66002. *ACACIA GUMMIFERA* Willd. Mimosaceae.

Found near Amismiz, Morocco, May 19, 1925. A small spiny tree, about 30 feet high, native to northern Africa. It yields the Morocco gum of commerce.

66003. *ACHYRANTHES ASPERA* L. Amaranthaceae.

From Barranco Ruis, Orotava, Teneriffe, Canary Islands, July 11, 1925. According to Juan Bollnaga, director del Jardin de Aclimatación, Orotava, this is a good forage plant which has become naturalized in the barrancos of Teneriffe. It is a low shrubby West Indian herb, with very small greenish flowers.

66004. *AVENA BARBATA* Brot. Poaceae. Grass.

Found on the roadside between Rabat and Casa Blanca, Morocco, May 8, 1925.

For previous introduction see No. 42734.

66005. *AVENA STERILIS* L. Poaceae. Oats.

Collected between Casa Blanca and Fedhala, Morocco, May 10, 1925.

66006. *CERATONIA SILIQUA* L. Caesalpinaceae. Carob.

Collected near San Antonio, Iviza, Balearic Islands, August 14, 1925. Variety *Vera*. A variety extensively grown in Iviza which I think must have perfect flowers.

66007. *EPHEDRA ALTISSIMA* Desf. Gnetaceae.

Collected in an Arab cemetery beyond Amismiz, south of Marrakesh, in the Grand Atlas Mountains, Morocco, May 29, 1925. A handsome woody climber, 20 feet or less in height, with minute green leaves, and especially striking when covered with its ovoid scarlet berries. Native to northern Africa.

For previous introduction see No. 57930.

66008. *HYPARRHENIA HIRTA* (L.) Stapf. Poaceae. Grass.

From a roadside between Rabat and Casa Blanca, Morocco, May 8, 1925. A perennial grass about 3 feet high, native to tropical and northern Africa.

For previous introduction see No. 39490.

66009. *LAGURUS OVATUS* L. Poaceae. Grass.

Found near Casa Blanca, Morocco, May 24, 1925, in rocky dry soil. A hardy annual grass, native to the Mediterranean region. The small white flower heads are used for dry bouquets.

66002 to 66019—Continued.

66010. *ONONIS SALZMANNIANA* Boiss. and Reut. Fabaceae.

Collected near Algeciras, Spain, June 27, 1925. An annual, erect, herbaceous, leguminous plant, with simple or trifoliate light-green leaves and dense spikes of pink flowers.

66011. *PERIPLOCA LAEVIGATA* Ait. Asclepiadaceae.

Collected north of Mogador, Morocco, June 3, 1925. An attractive evergreen shrub, native to the Canary Islands, with glossy dark-green foliage and dull-colored fragrant flowers.

66012. *RUMEX LUNARIA* L. Polygonaceae.

From Barranco de las Augustias, above the town of Los Llanos, Palma, Canary Islands, July 16, 1925. This perennial herb seems to be common on rocky places all over the island and is said to form goat forage of considerable importance.

66013. *THAPSIA GARGANICA* L. Apiaceae.

From an Arab cemetery beyond Amismiz, south of Marrakesh, in the Great Atlas Mountains, Morocco, May 29, 1925. A yellow-flowered herbaceous perennial, native to southern Europe. The fleshy root is said to have medicinal virtues.

66014. *TRICHOLAENA ROSEA* Nees. Poaceae. **Natal grass.**

Obtained from Juan Bolinaga, director del Jardin de Aclimatación, Orotava, Tenerife, Canary Islands, July 12, 1925. According to Mr. Bolinaga, this variety is thought to be indigenous. It is a very important forage crop in Tenerife and makes a remarkable growth.

For previous introduction see No. 61692.

66015. *TRITICUM OVATUM* (L.) Rasp. Poaceae. **Grass.**

From a roadside between Casa Blanca and Marrakesh, Morocco, May 13, 1925. An annual densely branched grass, with ascending stems about a foot long. Native to dry places in the Mediterranean region.

For previous introduction see No. 56520.

66016 to 66019. *VICIA SATIVA* L. Fabaceae. **Vetch.**

66016. Collected at Piste, near Amismiz, Morocco, May 19, 1925.

66017. Collected along an oued or stream, near the Pont des Espagnols, on the road between Casa Blanca and Foukhala, Morocco.

66018. From Piste, beyond Amismiz, Morocco, May 19, 1925.

66019. Collected on the road to Mogador, near Marrakesh, Morocco, May 17, 1925.

66020 to 66026. *GOSSYPIMUM* spp. **Cotton.**

From Villaggio Duca Abruzzi, Italian Somaliland, Africa. Seeds presented by the direttore. Agrario e Zootecnico della Sais. Received January 18, 1926.

Cotton varieties of native origin or introduced, which have become acclimated in Italian Somaliland.

66020. *GOSSYPIMUM BARBADENSE* L.

No. 4. Var. *Sakellaridis*.

66021. *GOSSYPIMUM HERBACEUM* L.

No. 7. Var. *Somala di Uaressk*.

66020 to 66026—Continued.

66022 to 66025. *GOSSYPIMUM HIRSUTUM* L.

66022. No. 1. Var. *Durango*; Australian.

66023. No. 2. Var. *Russell big boll*; Australian.

66024. No. 3. Var. *Uganda*.

66025. No. 5. Var. *Agordat*; Eritrea.

66026. *GOSSYPIMUM* sp.

No. 6. Var. *Somala di Audégle*.

66027. *GOSSYPIMUM* sp. **Malvaceae. Cotton.**

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, general experiment station, Department of Agriculture, Industry, and Commerce. Received January 12, 1926.

A native cotton from Sumatra.

66028. *ILEX* sp. **Aquifoliaceae. Holly.**

From Nanking, China. Seeds presented by M. L. Hancock, University of Nanking. Received January 19, 1926.

A "red evergreen privet" which is a species of *Ilex* with shiny spineless evergreen leaves and red berries. Collected at Nanking. (Hancock.)

66029 to 66035. *TRIFOLIUM PRATENSE* L. **Fabaceae. Red clover.**

From Aberystwyth, Wales. Seeds presented by R. G. Stapledon, director, Welsh Plant Breeding Station. Received January 23, 1926. Notes by Mr. Stapledon.

Locally grown varieties.

66029 to 66031. From Leightons Ltd., Newcastle.

66029. Station No. 1212. (Cambridge No. 92.)

66030. Station No. 1210. (Dorsett No. 194.)

66031. Station No. 1211. (Hertfordshire No. 85.)

66032. Station No. 1206. *Dorsett Marlglass clover*, from H. H. Dunn, Dunns Farm Seeds (Ltd.), Salisbury.

66033 to 66035. From Leightons Ltd., Newcastle.

66033. Station No. 1208. (Oxfordshire No. 49.)

66034. Station No. 1209. (Oxfordshire No. 180.)

66035. Station No. 1207. (Shropshire No. 118.)

66036 to 66038. *CASTANEA* spp. **Fagaceae. Chestnut.**

From Nanking, China. Seeds purchased from Prof. J. H. Reisner, College of Agriculture and Forestry, University of Nanking. Received at the United States Plant Introduction Garden, Chico, Calif., January 22, 1926.

66036. *CASTANEA HENRYI* (Skan) Rehd. and Wils.

A Chinese chestnut which, as described in *Plantae Wilsonianae* (vol. 3, p. 196), is a deciduous tree 25 to 90 feet tall, with oblong-lanceolate, long-acuminate leaves, green on both sides. The burs are either solitary or two or three in a bunch and contain usually but one nut.

For previous introduction see No. 65450.

66036 to 66038—Continued.

66037. *CASTANEA MOLLISSIMA* Blume.

In the endeavor to relieve the situation caused by the rapid disappearance of our native chestnut, due to the ravages of the blight fungus, the Chinese hairy chestnut is being introduced into this country in considerable quantity. The size and quality of the nuts compare rather favorably with that of our native chestnut, although neither the size of the tree nor the tanning content measure up to those of our native species.

For previous introduction see No. 58602.

66038. *CASTANEA SEGUINI* Dode.

A Chinese chestnut, native to east-central China, which is usually a bush or low tree, but occasionally a shapely tree up to 40 feet in height, with deep-green leaves, paler beneath, and small nuts of sweet agreeable flavor.

66039 to 66042. *CROTALARIA* spp. Fabaceae.

From Nairobi, Kenya Colony, British East Africa. Seeds presented by J. McDonald, Scott Agricultural Laboratories. Received January 22, 1926.

66039. *CROTALARIA AGATIFLORA* Schweinf. f.

No. 6. A tropical African leguminous herb, which, as described by Engler (Hoehnel, Zum Rudolf See, Appendix 1892, p. 13), has large yellow flowers about 2 inches long and 1 inch across and sword-shaped pods about 3 inches long, containing 15 to 20 seeds.

66040. *CROTALARIA* sp.

No. 8.

66041. *CROTALARIA* sp.

No. 10.

66042. *CROTALARIA* sp.

No. 11.

66043 to 66045. *GOSSYPIUM NANKING* Meyen. Malvaceae. Cotton.

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, general experiment station, Department of Agriculture, Industry, and Commerce. Received January 19, 1926.

The "Chinese" cotton of commerce is, according to Watt (Wild and Cultivated Cottons of the World), an annual or perennial bush, with delicate, sparsely branched stems and imperfectly cordate leaves. The irregular-shaped seeds are densely coated with rufous velvet and bear a silky floss, which, in all the better varieties, is white, but often shows a tendency to become reddish or khaki. This cotton is cultivated throughout tropical Asia.

For previous introduction see No. 62595.

66043. From Demak, a place in central Java, east of Semarang.

66044. No. 1. From Palembang.

66045. No. 2. From Palembang.

66046 to 66050. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Muzaffarpur, Bengal, India. Cuttings presented by Noel Deerr, superintendent of factories, through E. W. Brandes, Bureau of Plant Industry. Received February 1, 1926. Notes by Mr. Deerr.

66046. *Haruki*. From Purtabtore, District of Saras.

66047. *Hatooni* (otherwise known as *Chemal* and *Baruk*). From Riwa Ghat, District of Muzaffarpur. This cane seems to be very close to *Sewali*.

66048. *Nagori*. A slender cane from Samastipur, District of Darbhanga.

66046 to 66050—Continued.

66049. *Turi*. A thick green cane.

66050. *Samari* or *Sewali*. From Ryam, District of Darbhanga. This cane seems to be very close to *Hatooni*.

66051. *HERNANDIA SONORA* L. Hernandiaceae.

From Port of Spain, Trinidad, British West Indies. Seeds presented by W. G. Freeman, director of agriculture. Received January 27, 1926.

A handsome evergreen West Indian tree, sometimes 60 feet high, with oval-oblong papery leaves 7 to 12 inches long and loose terminal clusters of small yellowish flowers. The juice of this tree is said to be a painless depilatory.

66052 to 66055. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Valence sur Rhone, France. Seeds purchased from Tizier Frères. Received February 2, 1926.

Locally grown varieties.

66052. Department of Ardeche.

66053. Department of Aveyron.

66054. Nimes.

66055. Valence and Lyon.

66056 to 66058.

From Cairo, Egypt. Seeds presented by W. Carlton McQuiston, the American University at Cairo. Received January 26, 1926. Notes by Mr. McQuiston.

66056. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

A long-type muskmelon, known here as the *Sheman*.

66057 and 66058. *TRITICUM* spp. Poaceae.

Wheat varieties originated by the Royal Agricultural Society of Egypt.

66057. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Common wheat.

Hindi wheat. A variety from India. At present it is the best yielder in the Delta.

66058. *TRITICUM TURGIDUM* L. Poulard wheat.

A selected strain of *Beladi*.

66059. *GOSSYPIUM* sp. Malvaceae. Kidney cotton.

From Bangkok, Siam. Seeds presented by Dr. A. Kerr, director, botanical section, Ministry of Commerce. Received January 21, 1926.

A perennial cotton cultivated in this region. It is not grown as a regular crop, and the floss is used only for making string. (*Kerr*.)

66060. *GOSSYPIUM* sp. Malvaceae. Cotton.

From Caracas, Venezuela. Seeds presented by H. Pittier, Ministerio de Relaciones Exteriores, Museo Comercial. Received January 22, 1926.

Seeds collected in the State of Portuguesa. I believe them to be of one of the indigenous species. (*Pittier*.)

66061. *MACADAMIA INTEGRIFOLIA* Maiden and Betcher. Proteaceae.

From Dundas, New South Wales, Australia. Seeds presented by Herbert J. Rumsey. Received January 29, 1926.

As described by J. H. Maiden (Proceedings of the Linnean Society of New South Wales, vol. 21, p. 624), this close relative of the Queensland nut (*Macadamia ternifolia*) is a small bushy tree, with entire, narrowly oblong leaves, about 6 inches long, in irregular whorls of three. The globular fruits, about three-fourths of an inch in diameter, have a leathery exocarp and a hard endocarp. Native to New South Wales.

66062 to 66076.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 25, 1926. Notes by Mr. McClure.

66062 to 66064. ALEURITES MONTANA (Lour.) Wilson. Euphorbiaceae.

Baptist Mission compound, Wuchow, Kwangsi. November 18, 1925. Trees growing at the foot of a terrace, in yellow clay granitic subsoil, with their roots partly in filled soil of the same composition, but naturally looser in texture.

66062. No. 240. Tree No. 1. This tree, which appears to be the most prolific of the collection at the mission compound, is about 12 meters high and 25 centimeters in diameter at chest height. It bears the largest clusters of fruits, 11 to 13 to a cluster.

66063. No. 241. Tree No. 2. This tree is second only to tree No. 1 [No. 66062] in prolificness.

66064. No. 242. From trees of average yield.

66065 to 66067. BENINCASA HISPIDA (Thunb.) Cogn. Cucurbitaceae. Wax gourd.

66065. No. 245. Purchased in Yungui, Kwangsi, November 20, 1926. *Paak shik kwa*. The fruits are long and slender, the largest ones being 65 centimeters long and 36 centimeters in circumference, and are slightly constricted in the middle. They are thickly covered, when mature, with a white flourlike powder. The skin is pale green, thin, with a sparse outgrowth of hairs 2 or 3 millimeters in length. The flesh, 2 to 3 centimeters in thickness, is greenish for a half inch inward from the skin, otherwise white, and is tender, but has little flavor. The Chinese usually cook the fruits with pork and often use them in soup.

66066. No. 273. *Tsit kwa*. Purchased at Takhing, Kwangtung Province, November 27, 1925. This variety seems very similar to No. 245 [No. 66065], differing only in being straight and not depressed in the middle.

66067. No. 276. *Tung kwa*. Purchased in Takhing, Kwangtung Province, November 27, 1925. A short, thick variety, depressed at both ends, which is somewhat triangular in cross section. It is light green and thickly covered with a flourlike bloom when mature.

66068. CITRULLUS VULGARIS Schrad. Cucurbitaceae. Watermelon.

No. 251. *Hung kwa tsz* and *sai kwa tsz*. Purchased in Wuchow, Kwangsi, November 23, 1925. This variety is said to be cultivated for the seeds only, and the flesh is said to be worthless. The seeds are commonly served between courses at Chinese feasts.

66069. CRATAEGUS PINNATIFIDA Bunge. Malaceae. Chinese hawthorn.

No. 252. Obtained at Wuchow, Kwangsi, November 23, 1925, where they had been shipped in from Tientsin, in a dried sliced condition. *Shaan cha*. The seeds are thick walled. A thin red circular waterlike confection is made from the flesh by adding a red coloring matter and sugar.

66062 to 66076—Continued.

66070 and 66071. CUCURBITA MOSCHATA Duchesne. Cucurbitaceae. Cushaw.

Purchased at Takhing, Kwangtung Province, November 27, 1925. Used as food only by the poorer classes and is, therefore, commonly cultivated by them.

66070. No. 274. *Naam kwa*. A variety with the skin mottled green and yellow and the flesh deep yellow.

66071. No. 275. *Hop kwa*. An orange-yellow skinned variety, smaller than No. 274 [No. 66070], which is slightly paled by the presence of a scant gray bloom.

66072. ELEUSINE CORACANA (L.) Gaertn. Poaceae. Ragi.

No. 278. Purchased November 27, at Takhing, Kwangtung Province. *Aap keuk suk*. This variety is commonly cultivated in Kwangtung, but on a small scale. It is boiled and eaten with sugar.

66073. PHASEOLUS CALCARATUS Roxb. Fabaceae. Rice bean.

No. 277. Purchased at Takhing, Kwangtung Province, November 27, 1925. *Chik siu tau*. This variety, said to be grown locally in the silty soil of the annually denuded river flood plain, yields two crops a year. It is eaten after being boiled.

66074. PYRUS sp. Malaceae. Pear.

No. 244. Purchased at Yungui, Kwangsi, November 20, 1925, and is said to have come from the region north of Wuchow, on the Foo River. It is said to occur also generally in the region east of Wuchow, north of the West River in Kwangtung, and it is also seen in the markets of Takhing, Kwangtung. The fruits are oblate to subglobular, the stem long, 1.5 to 2.5 centimeters, slender, attached in a small, shallow depression; the apex of the fruit has a slight depression or none; the skin is olive green, thin but tough, and smooth; the flesh is fine grained, but very firm, and somewhat astringent when fresh; the seeds are large, 5 to 10 in number; and the seed section is surrounded by a thick yellow "shell" of hard granular material. The fruits are usually placed in hot water for a time before they are eaten. Another way of preparing them is to pickle them in vinegar. This variety may serve as a stock for pears or apples, but, so far as I know, it is not used for this purpose by the Chinese.

66075. PYRUS sp. Malaceae. Pear.

No. 254. From fruits purchased November 23, 1925, in Wuchow, Kwangsi. *Tong lei tsai*. A small round red-brown to russet fruit, thickly punctate with tiny light-brown dots. The fruits are few seeded; the flesh, mellow when ripe, is somewhat granular, like that of pears, especially in the zone which divides the pome portion from the ovary portion of the fruit. The fruits are not eaten fresh, but are prepared for consumption by pickling in vinegar. This plant serves exclusively as stock for pears in southern China, so far as I have been informed. It is said to grow only in the wild or half-cultivated state, except as stock for pears, and is widely distributed in Kwangtung and Kwangsi.

66076. SESAMUM ORIENTALE L. Pedaliaceae. Sesame.

No. 253. Purchased November 23, 1925, in Wuchow, Kwangsi. *Paak chi ma*. A herbaceous annual said to be grown in the Foo River District, Kwangsi. The seeds are used in confections, often as a covering for cakes and candies, and the oil expressed from the seeds is used by the Chinese in cooking.

66077 to 66080. MAGNOLIA spp. Magnoliaceae. Magnolia.

From Orleans, France. Plants presented by Leon Chenault. Received February 4, 1926.

66077 to 66080—Continued

All of these magnolias are growing at the Arnold Arboretum. The following notes are adapted from Sargent, *Plantae Wilsonianae*, vol. 1, pp. 394-399.

66077. *MAGNOLIA DAWSONIANA* Rehd. and Wils.

A tree 25 to 40 feet high, originally collected in western Szechwan, China, where it grows at an altitude of about 7,000 feet. It is readily distinguished from related magnolias by its leathery, shining-green obovate leaves, which are 3 to 5 inches long. The flowers are unknown.

66078. *MAGNOLIA NICHOLSONIANA* Rehd. and Wils.

A deciduous shrub or small tree, 20 feet or less in height, closely allied to *Magnolia wilsonii*, from which it is distinguished by its vinous-red bark, shorter petioles, and oblong-obovate leaves with densely hairy undersurfaces. The cup-shaped flowers, appearing with the leaves, are white with red pistils and about 4 inches across. This magnolia is native to western China.

66079. *MAGNOLIA SARGENTIANA* Rehd. and Wils.

A tall tree, up to 75 feet in height, the largest magnolia found in western China, where it is native. The branches are very numerous, forming a massive flattened crown. The deciduous, leathery leaves, pubescent beneath, are 4 to 7 inches long, and, according to the natives of western China, the flowers are rosy red and 8 inches wide.

66080. *MAGNOLIA SARGENTIANA ROBUSTA* Rehd. and Wils.

This variety differs from the type in having longer and narrower leaves and larger fruits.

66081 to 66083.

From British Honduras. Seeds collected by S. J. Record, School of Forestry, Yale University, New Haven, Conn. Received February 2, 1926.

66081. *GEONOMA* sp. *Phoenicaceae*. Palm.

The members of this tropical American genus are slender spineless palms with ringed, reedlike stems.

66082. *PLECTIS* sp. *Phoenicaceae*. Palm.

Mountain cabbage. (*Record*.)

The palms of this Guatemalan genus have a very tall, slender, tapering trunk and short-stemmed leaves with very numerous linear pinnae.

66083. *SYNECHANTHUS FIBROSUS* Wendl. *Phoenicaceae*. Palm.

Common monkey-tail palm. (*Record*.)

An unarmed Central American palm with a slender, green, ringed trunk about 4 feet high and a cluster of terminal spreading leaves about 4 feet long with numerous narrow leaflets a foot or so in length. The orange-red, ellipsoid fruit is one-seeded.

66084. *DISSOTIS IRVINGIANA* Hook. *Melastomaceae*.

From Aburi, Gold Coast, Africa. Seeds presented by F. N. Howes, Government botanist, Department of Agriculture. Received February 2, 1926.

An ornamental annual plant, 1 to 3 feet high, from tropical Africa. The leaves are opposite, narrow, and acute, and the reddish purple flowers are about an inch across.

66085. *CALOPOGONIUM MUCUNOIDES* Desv. *Fabaceae*.

From Kuala Lumpur, Federated Malay States. Seeds presented by B. Bunting, agriculturist, Department of Agriculture. Received March 19, 1926.

A tropical American plant which is said to be popular as a cover plant in Sumatra, according to J. N. Milsum and E. A. Curtler (*Malayan Agricultural Journal*, vol. 13, No. 8, August, 1925, pp. 271-272). These authorities state that a fair cover is obtained after three months from sowing, when flowering commences. The plant is a vigorous creeping herb which forms a mat of foliage $1\frac{1}{2}$ feet or so in thickness over the soil. The stems, 3 to 10 feet long, form roots at each node. The pale-blue flowers are in racemes 1 to 4 inches long.

66086. (Undetermined.) *Poaceae*. Bamboo.

From Slidell, La. Plants presented by J. L. Gelis. Received March 19, 1926.

A bamboo obtained in 1909 from a nursery in Fresno, Calif. It grows well here and becomes 10 to 18 feet high with stems about an inch in diameter. (*Gelis*.)

66087. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). *Poaceae*.

Common wheat.

From Rome, Italy. Seeds obtained through Rev. Walter Lowrie, of the Rectory of St. Paul's, by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 12, 1926.

No. 340. Var. *Piccolo rosso degli Alpi*. A selected variety, 50 to 60 centimeters high, from Pragelato, Italy, at an altitude of 1,800 meters, and is adapted to 2,000 meters altitude. It is planted in June and harvested in July of the following year.

66088. *RUBUS PROBUS* Bailey. *Rosa-ceae*. Raspberry.

From Rio Piedras, P. R. Plants presented by A. Lopez Dominguez, director, Insular Experiment Station. Received February 2, 1926.

The so-called "Queensland" raspberry, which, as described by L. H. Bailey (*Gentes Herbarum*, vol. 1, p. 150), is related to *Rubus roseae* folius, but is less thorny and has glabrous leaves and pedicels, with usually seven leaflets which are relatively broader than in the above-mentioned species. The seedy red berries have a flattened appearance. The plant is upright, about 8 feet high, and the canes are not perennial. This is a cultivated plant in Porto Rico, where it has been grown for some years, and is probably originally from Queensland.

66089 to 66092. *LILIUM* spp. *Lilia-ceae*. Lily.

From Orleans, Loiret, France. Seeds presented by E. Debras. Received February 5, 1926.

Locally grown seed.

66089. *LILIUM HENRYI* Baker.

The Henry lily, native to central China, has a stem 4 to 8 feet high, deep green, tinged and spotted with brown; the leaves, 60 to 100 in number, are horizontal and 3 to 6 inches long. The flowers, bright orange-yellow, with orange-red anthers, are about 3 inches in diameter.

66090. *LILIUM HUMBOLDTI* Roehl and Leichtl.

Var. *magnificum*. A form of the Humboldt lily which is more robust and larger, often 8 feet high, with larger and more richly colored flowers, frequently tinged with reddish purple.

66091. *LILIUM REGALE* Wilson. Regal lily.

Seeds of the regal (or royal) lily.

66092. *LILIUM SARGENTIAE* Wilson.

The Sargent lily, originally from western China, has a stout stem 4 to 8 feet high, green tinged with purple, and a hundred or more thickly scattered horizontal leaves 2 to 4 inches long. The fragrant flowers are waxy white inside, tinged yellow near the throat, and reddish purple outside.

66093 to 66095. AMYGDALUS PERSICA L.
(*Prunus persica* Stokes). Amygdalaceae. Peach.

From Orleans, France. Trees purchased from Grandes Roseraies du Val de la Loire. Received February 10, 1926. Notes from catalogue of Grandes Roseraies du Val de la Loire.

66093. *Admirable jaune.* Fruit large, golden yellow, spotted with red; matures in late September.

66094. *Galande.* Fruit large purplish, very good quality; matures in late August.

66095. *Madeleine de Courson.* Fruit very large, red, very good quality; matures in late September.

66096. NOTHOSCORDUM FRAGRANS
(Vent.) Kunth. Liliaceae.

From Orleans, Loiret, France. Seeds presented by E. Debras. Received February 5, 1926.

A tropical American bulbous plant closely related to the onion; the bulb is round and yellowish white, and the linear obtuse leaves are 8 to 12 inches long. The fragrant flowers, white flushed with pink, with purplish stamens and anthers, are borne on a scape 20 inches high.

66097. ANOPTERUS GLANDULOSUS Labill. Escalloniaceae.

From Cradle Mountain, Tasmania. Seeds presented by G. Weinderfer, through George B. Sudworth, Forest Service. Received February 6, 1926.

A handsome evergreen Tasmanian shrub, sometimes a small tree 40 feet high in its native country. The thick narrow leaves, mostly at the ends of the branches, are 4 to 8 inches long, and the white flowers are in drooping terminal racemes. It is suitable for greenhouse culture, blooming in the spring.

For previous introduction see No. 61324.

66098 to 66106. BETA VULGARIS L.
Chenopodiaceae. Beet.

From Kew, England. Seeds presented by Dr. A. D. Cotton, Royal Botanic Gardens. Received February 6, 1926.

Var. *maritima*. Wild beet seeds collected in different parts of England.

66098. From Clevedon, Somerset.

66099. From Par Harbour, Cornwall.

66100. From Par Sands, Cornwall.

66101. From Pentewan, Cornwall.

66102. From Polperro, Cornwall.

66103. From St. Helens Spit, Isle of Wight.

66104. From Charlestown, South Cornwall.

66105. From Trenarnen, South Cornwall.

66106. From Seaton, Devonshire.

66107. VACCINIUM VITIS-IDAEA L.
Vacciniaceae. Lingonberry.

From Helsingfors, Finland. Seeds presented by the director of the Botanic Garden. Received February 6, 1926.

The fruits of the European form of this evergreen bush are larger than those of the mountain cranberry (*Vaccinium vitis-idaea minus*) found in the northeastern United States.

66108 to 66115. BRASSICA OLERACEA
BOTRYTIS L. Brassicaceae. Broccoli.

From Reading, England. Seeds purchased from Sutton & Sons. Received February 6, 1926. Notes from Sutton & Sons' catalogue.

Varieties not in the American trade.

66108. *Autumn Protecting.* Equal to Michaelmas White in quality, but matures later. Heads well protected.

66109. *Superb Early White.* Heads pure white, perfectly protected.

66110. *Michaelmas White.* Heads very large, well formed, delicate, white, firm, quickly maturing. Excellent for early autumn use.

66111. *Safeguard Protecting.* Heads pure white, medium sized, often enduring severe winters uninjured.

66112. *Satisfaction.* A variety for use in April and May.

66113. *Snow White.* Heads of uniform size and shape; for spring use.

66114. *Whitsuntide.* Somewhat similar to Late Queen, but of larger size and later maturing. Heads pure white, large, firm, of finest quality. Has survived 22° of frost uninjured.

66115. *Winter Mammoth.* Immense white heads, excellent in texture and quality, for use in midwinter.

66116 to 66123. TRIFOLIUM PRATENSE
L. Fabaceae. Red clover.

From Reading, England. Seeds presented by Martin H. Sutton, The Royal Seed Establishment. Received February 8, 1926.

66116 to 66119. Early-flowering varieties.

66116. *Dorset Marl.*

66117. *English.*

66118. *Giant Hybrid.*

66119. *Welsh.*

66120 to 66123. Late-flowering varieties.

66120. *Cornish Marl.*

66121. *English.*

66122. *Montgomeryshire.*

66123. *Wild red clover.*

66124. BAUHINIA HETEROPHYLLA
Kunth. Caesalpiniaceae.

From Little River, Fla. Plant presented by John Soar, through Charles T. Simpson, collaborator, Bureau of Plant Industry. Received February 12, 1926.

This plant is from seeds collected in the Organ Mountains of western Cuba. (Simpson.)

This is called bejuco tortuga (turtle vine) because of the characteristic turtle-shaped swellings in the older parts of the vine. It grows in low, sandy places, chiefly on the edges of lagoons and marshes in western Cuba, where it climbs over trees and shrubs. The clusters of yellowish white flowers appear in December. The young vine is used by the natives for making rough baskets and rope. (Note by Dr. Mario Calvino under No. 58824.)

66125. CITRUS sp. Rutaceae.

From Miyazaki, Japan. Seeds presented by Dr. T. Tanaka, through W. T. Swingle, Bureau of Plant Industry. Received March 30, 1926.

Seeds from locally grown fruits.

66126 and 66127. TRIFOLIUM PRATENSE
L. Fabaceae. Red clover.

From Valence sur Rhone, France. Seeds purchased from Tézier Frères. Received February 10, 1926. Notes by Tézier Frères.

Local varieties.

66126. From Loire.

66127. Seeds from plants grown in dry calcareous soil in the neighborhood of Forcalquier in the Department of Basses-Alpes, at an altitude of 2,000 feet. In our opinion this strain is more winter hardy than the strains from southern France.

66128 and 66129. JUGLANS REGIA L.
Juglandaceae. Walnut.

From Ainsdale, Southport, England. Seeds presented by Howard Spence, The Red House. Received February 13, 1926.

Seeds from trees growing in the vicinity of Ranikhet, Kumaon, United Provinces, India. The nuts are very thick shelled and of little value, but I believe the trees may be of value as stocks. (Spence.)

66128. No. 1.

66129. No. 2.

66130. CITRUS GRANDIS (L.) Osbeck
(*C. decumana* Murr.). Rutaceae. Grapefruit.

From Singapore, Straits Settlements. Seeds presented by O. H. Reinking, Botanic Gardens. Received February 13, 1926.

Seeds of the *Thong Dee Siamese Pummelo*.

66131. PYRUS sp. Malaceae. Pear.

From Arlington Experiment Farm, Rosslyn, Va. A hybrid seedling pear originated by M. B. Waite, Bureau of Plant Industry, at the Arlington farm. Numbered February, 1926, for convenience in distribution.

Kieffer Cross 38-12. (A cross made several years ago between Kieffer and a European variety of unknown parentage.) Tree moderately vigorous, erect to spreading. Fruit pyriform, 3 to 4 inches long by 2 to 2½ inches wide, yellow, fairly smooth, with numerous small gray or yellowish lenticels. Flesh white, tender, not quite so buttery in texture as Bartlett, but with few stone cells. Rather highly flavored, mildly acid, apparently well suited to cooking and canning purposes as well as for dessert use. Appears to possess good handling and keeping qualities, not breaking down at the core. (Waite.)

66132. ARTABOTRYS UNCINATUS (Lam.)
Merr. (*A. odoratissimus* R. Br.). Annonaceae.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February 18, 1926.

No. 318. Near Uenpui. December 25, 1925. *Ying chaa fa; ying chaa laan*. A half-scandent shrub with long, slender, drooping branches and greenish flowers. The fruits are ovoid with a pointed, slightly curved apex and yellowish when ripe. This plant is very highly esteemed by the Chinese because of the rich fragrance of the flowers and fruits. It is commonly cultivated in monasteries.

66133. SACCHARUM OFFICINARUM L.
Poaceae. Sugar cane.

From Herradura, Cuba. Cuttings presented by F. S. Earle, through E. W. Brandes, Bureau of Plant Industry. Received February 12, 1926.

B. 208.

66134. VACCINIUM VITIS-IDAEA L.
Vacciniaceae.

From Stockholm, Sweden. Seeds presented by Dr. Robert E. Fries, director, Botanic Garden. Received February 13, 1926.

For previous introduction and description see No. 66107.

66135 to 66141.

From Rabat, Morocco. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received February 11, 1926.

66135. CYTISUS LINIFOLIUS (L.) Lam. Fabaceae.
Broom.

From the Forest of Mamora, near Rabat. April 19, 1925. A low shrub, 3 feet or less high, with erect, silky hairy branches and very narrow shining-green leaflets with silvery lower surfaces. The bright-yellow flowers are in short compact clusters. Native to the Mediterranean countries.

66136. LOTUS sp. Fabaceae.

From a roadside near the seed-selection station, Rabat, April 17, 1925.

66137. MEDICAGO sp. Fabaceae.

Collected near the seed-selection station, Rabat, April 17, 1925.

66138. MEDICAGO sp. Fabaceae.

Found on a roadside between Meknes and Rabat, April 7, 1925.

66139. MEDICAGO sp. Fabaceae.

Collected on the road between Kenitra and Ouezzan, April 25, 1925.

66140. ORNITHOPUS ISTHOCARPUS Coss. Fabaceae.

Collected in sandy land north of Kenitra on the road to Ouezzan, April 25, 1925. A slender annual leguminous herb, about 2 feet high, with small hairy pinnate leaves, pinkish flowers, and narrow, constricted pods about an inch long. Native to the Mediterranean region.

66141. VICIA ERVILIA (L.) Willd. Fabaceae.
Vetch.

Collected April 29, 1925. Cultivated by E. Miegé at the experiment station in Rabat, Morocco.

66142 to 66147. HEDYSARUM spp. Fabaceae.

From Oran, Algeria. Seeds presented by Herbier A. Faure, through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received February 11, 1926.

66142 and 66143. HEDYSARUM CAPITATUM Desf.

An annual, ascending leguminous plant, with purple flowers. Native to the Mediterranean countries.

For previous introduction see No. 64553.

66142. A. 66143. B.

66144. HEDYSARUM HUMILE L.

A decumbent perennial leguminous plant, about a foot and a half high. Native to the Mediterranean countries.

66145 and 66146. HEDYSARUM PALLIDUM Desf.

A perennial procumbent leguminous plant, native to northern Africa, where it thrives on steep hillsides.

For previous introduction see No. 64554.

66145. A. 66146. B.

66142 to 66147—Continued.

66147. *HEDYSARUM SPINOSISSIMUM* L.

An annual decumbent leguminous herb with pale-pink flower clusters. Native to the Mediterranean countries.

66148 to 66158.

From Bangalore, India. Seeds presented by the director of the botanic gardens. Received February 12, 1925.

66148 to 66150. *BAUHINIA* spp. *Caesalpiniaceae*.66148. *BAUHINIA GALPINI* N. E. Brown.

A climbing shrub, 5 to 10 feet high, native to tropical Africa. The leaves, two lobed at the apex from one-fifth to one-half their length, are 1 to 3 inches long, and the brick-red flowers are borne continuously from spring to late fall.

66149. *BAUHINIA HOOKERI* F. Muell.

A large spreading tree, native to Australia, with broad obtuse leaflets and short terminal racemes of white flowers edged with crimson.

For previous introduction see No. 37135.

66150. *BAUHINIA TOMENTOSA* L.

An erect shrub or small tree with leathery leaves, broader than long and with obtuse lobes, and few-flowered clusters of pale golden-yellow flowers, with the upper petals marked by deep-purple blotches. Native to India.

For previous introduction see No. 38651.

66151. *COLVILLEA RACEMOSA* Boj. *Caesalpiniaceae*.

A tall, handsome tree, believed to be indigenous to East Africa, which is related to the Royal poinciana (*Delonix regia*). It is said to reach 40 or 50 feet in height. The pinnate leaves are 3 feet long, and the curiously shaped, brilliant scarlet flowers are borne in drooping racemes more than a foot long. The tree was named for Sir Charles Colville, Governor of Mauritius; it was discovered in 1824 on the west coast of Madagascar, where it flowers in April or May. In all probability it will stand no more frost than the poinciana. Like most other leguminous trees, it is readily propagated from seeds.

For previous introduction see No. 59676.

66152. *PONGAM PINNATUM* (L.) W. F. Wight. *Fabaceae*.

A tall, erect tree, or sometimes a climbing shrub, with compound leaves composed of five to seven pairs of oblong leaflets and simple racemes of white flowers. The woody pods are about a quarter of an inch thick and an inch and a half long. Native to tropical Asia. Because of its bright, handsome foliage this tree has been recommended as an ornamental for mild-wintered regions.

For previous introduction see No. 43662.

66153. *SANTALUM ALBUM* L. *Santalaceae*. Sandalwood.

A small evergreen tree, native to the drier regions of southern India, and cultivated in northern India for the sake of the white or citron-colored wood, which, when dried, is sweet scented and esteemed as a perfume.

For previous introduction see No. 40782.

66154. *SARACA INDICA* L. *Caesalpiniaceae*.

One of the handsomest of Indian ornamental trees, producing large heads of the most brilliant scarlet flowers imaginable. While restricted to the tropical sections of India, it may be sufficiently hardy to succeed in southern Florida. (Note by *Wilson Popenoe*, *Bureau of Plant Industry*, under No. 56092.)

66148 to 66158—Continued.

66155. *TECTONA GRANDIS* L. f. *Verbenaceae*. Teak.

The common teak is a native of southern and central India. The young branches are quadrangular, the leaves opposite and elliptical or egg-shaped, and the white flowers are borne in terminal panicles. The wood is highly prized by shipbuilders because of its great strength and durability.

For previous introduction see No. 49563.

66156 to 66158. *TERMINALIA* spp. *Combretaceae*.66156. *TERMINALIA ARJUNA* (Roxb.) Wight and Arn.

Arjan. A very large tree with smooth green or whitish bark, found on river banks throughout central and southern India. The leaves are narrowly oblong, about 9 inches long, and the flowers, which appear in April and May, are borne in terminal panicles. This tree yields the transparent gum which is used as a drug in northern India; the bark is used for tanning, and the wood is used for carts and agricultural implements.

For previous introduction see No. 49565.

66157. *TERMINALIA CHEBULA* Retz.

A large deciduous tree, native to northern India, Burma, and Ceylon, with oval-elliptic leaves about 5 inches long and terminal racemes of white flowers. The ovoid, leathery fruits form the black myrobalan of commerce, which is one of the most valuable tanning materials of India.

For previous introduction see No. 63645.

66158. *TERMINALIA TOMENTOSA* (Roxb.) Wight and Arn.

The tropical almond (*Terminalia catappa*) is one of the most popular trees in southern Florida, where it is extensively planted as an ornamental shade tree. This closely related Asiatic species, found in many parts of India, is described by Brandis (Forest Flora of India) as a large tree, 80 to 100 feet tall, with hard, leathery leaves 5 to 9 inches long and erect terminal racemes of dull-yellow flowers. The tree appears to thrive best in India in heavy, binding soils, and the dark-brown wood is valued for general construction purposes.

For previous introduction see No. 61624.

66159 to 66162.

From British Honduras. Seeds collected by S. J. Record, School of Forestry, Yale University, New Haven, Conn. Received February 11, 1926.

66159. *ACANTHORIZA* sp. *Phoenicaceae*. Palm.

A tropical American palm of medium height, with palmate leaves clustered at the end of the trunk.

66160. *CHAMAEDOREA* sp. *Phoenicaceae*. Palm.

A spineless palm, with pinnate leaves, native to tropical North America.

66161. *DESMONCUS* sp. *Phoenicaceae*. Palm.

A slender climbing palm, with leaves scattered along the stem. Native to tropical and subtropical America.

66162. *PYRENOGLYPHIS* sp. *Phoenicaceae*. Palm.

A tropical American palm which is usually low and often has a spiny trunk.

66163. SOLANUM TUBEROSUM L. Solanaceae. Potato.

From Reading, England. Tubers obtained from Sutton & Sons, by F. W. Keay, Wolverhampton, and presented through C. F. Clark, Bureau of Plant Industry. Received February 18, 1926.

This variety is said to be *Paterson's Victoria*, but it is not the old Paterson's Victoria bred by William Paterson. (Keay.)

66164. IPOMOEA REPTANS (L.) Poir. (I. aquatica Forsk.). Convolvulaceae.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February 3, 1926.

No. 305. Obtained on Honam Island, December 15, 1925. *Ung taoi; paak hook ung taoi*. This is one of the most widely cultivated vegetables among the Chinese. It is easy to grow, yields many crops, and appeals generally to the Chinese palate. It may be grown either as a dry-land vegetable or as a water crop. The tips of the branches are eaten, together with the leaves. (McClure.)

For previous introduction see No. 54409.

66165 to 66167. PYRUS spp. Malaceae. Pear.

From Algiers, Algeria. Scions presented by Dr. L. Trabut, Government botanist. Received February 11, 1926. Notes by Doctor Trabut.

66165. PYRUS GHARBIANA Trabut.

This is near to *Pyrus longipes*, but sufficiently characterized by the form of the leaves and the fruit. This pear grows on the tufas in the region of Lamoriciere, Daya. It is called gharbiana from the name of the region which formed part of the ancient kingdom of Gharb (of the west) at the time of Arab domination.

For previous introduction see No. 30031.

66166. PYRUS LONGIPES Coss. and Dur.

A rare Algerian wild variety of botanical interest, which forms a tall tree with few spines. It occurs in the mountains of Serif, Anini, and l'Aures, where it reaches its highest development. The leaves are small, rounded, oval, and suborbicular; the fruits are small, about the size of a cherry, and have a stalk three times their length.

For previous introduction see No. 34662.

66167. PYRUS MAMORENSIS Trabut.

A Moroccan pear growing in the cork-oak forest of Mamora. The vigorous tree, very resistant to dryness in the sandy noncalcareous soils, will probably form a good stock. The fruits are rather large and the seeds very large.

For previous introduction see No. 45612.

66168. CEIBA ACUMINATA (S. Wats.) Rose. Bombacaceae. Pochote.

From Cajenne, Sonora, Mexico. Seeds presented by Walter Thompson, through L. H. Dewey, Bureau of Plant Industry. Received February 16, 1926.

This close relative of the silk-cotton tree (*Ceiba pentandra*) is described by P. C. Standley (Contributions from the United States National Herbarium, vol. 23, pt. 3) as a large or medium-sized tree with a greenish, spiny trunk, compound leaves, and hard, oblong fruits about 7 inches long which contain brownish "cotton" used for stuffing pillows and for making candlewicks. It is native to western and southern Mexico.

For previous introduction see No. 39389.

66169. ARACHIS NAMBYQUARAE Hoehne. Fabaceae.

From Sao Paulo, Brazil. Seeds presented by the Secretaria do Interior do Estado de Sao Paulo, through Arthur G. Parsloe, American vice consul in charge, Santos. Received February 16, 1926.

A Brazilian relative of the peanut, which, according to Hoehne (Historia Natural Botanica, Matto Grosso, Brazil, pt. 12), is a rather shrubby, much-branched prostrate or ascending plant. The pod is 2 to 3 inches long, with usually two seeds, which are edible and very oily. Cultivated by the Nambyquara Indians in Rondonia, Matto Grosso.

For previous introduction see No. 62099.

66170. COFFEA QUILLOU P. J. S. Cramer. Rubiaceae. Coffee.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, director, Bureau of Agriculture. Received February 16, 1926.

Introduced into the East Indies from Libreville, French Congo, in 1901, this was found to be distinct from *Coffea robusta*. The leaves are narrower and brighter green, and the young trees are pyramidal in habit. The berries are bright red, not dark crimson, and oblong. The crop matures later than that of *C. robusta* and under favorable circumstances is larger than that of any other coffee. Under less favorable conditions *C. robusta* is more productive. (*Tea and Coffee Trade Journal*, vol. 35, p. 417.)

For previous introduction see No. 65798.

66171. GOSSYPIUM spp. Malvaceae. Cotton.

From Rio de Janeiro, Brazil. Seeds obtained through A. Gaylin, American consul general. Received February 18, 1926.

Mocó (tree type) cotton, a locally grown variety.

66172 to 66175. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Aberystwyth, Wales. Seeds presented by R. G. Stapledon, director, Welsh Plant-Breeding Station. Received February 19, 1926.

Locally developed varieties.

66172. Sta. No. Aa-1214.

66173. Sta. No. Aa-1215.

66174. Sta. No. Aa-1216.

66175. Montgomery late-flowering clover.

66176. ELAEOCARPUS LANCEAFOLIUS Roxb. Elaeocarpaceae.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut, Government botanist. Received February 19, 1926.

A handsome white-flowered tree from the Himalayas, which, according to J. D. Hooker (Flora of British India, vol. 1, p. 402), has serrulate, lanceolate leaves up to 6 inches in length and 2 inches in width, and flowers half an inch across, borne in racemes.

66177 to 66179. GOSSYPIUM spp. Malvaceae. Cotton.

From the island of Cyprus. Seeds presented by the director of agriculture. Received February 19, 1926.

66177. GOSSYPIUM HERBACEUM L.

66178 and 66179. GOSSYPIUM HIRSUTUM L.

66178. *Triumph*.

66179. Derived from *Sea Island*, New Orleans, *Triumph*, and other varieties.

66180. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceae.**Common wheat.**

From Piacenza, Italy. Seeds presented by Federazione Italiana dei Consorzi Agrari. Received February 20, 1926.

Ardito. A new Italian wheat variety.

66181 and 66182.

From Rio Piedras, Porto Rico. Seeds presented by W. P. Kramer, chief, Porto Rico Forest Service. Received February 17, 1926.

66181. BAUHINIA KURZII Prain. Caesalpinia-ceae.

As described by J. G. Baker (Hooker, Flora of British India, vol. 2, p. 280), this is a climbing shrub, with papery, rounded-cordate leaves about 4 inches long, which are slit down about one-third of their length. The flowers are borne in terminal racemes. Native to Martaban, Burma.

For previous introduction see No. 33558.

66182. CAESALPINIA SAPPA L. Caesalpinia-ceae.

A shrubby leguminous tree, native to India and Malaysia, which bears showy yellow flowers. The wood, known to commerce as sappa wood, yields a red dye, and the bark is used for tanning. It is said to be an excellent hedge plant and to endure rather poor dry soils.

66183. CITRUS NOBILIS DELICIOSA (Ten.) Swingle. Rutaceae.**Mandarin orange.**

From Manila, Philippine Islands. Seeds presented by S. Youngberg, director, Bureau of Agriculture. Received February 20, 1926.

P. I. No. 1267. *Szinkom mandarin*. Grown at the experiment station in Tanauan, Batangas. (Youngberg.)

66184 to 66188. CYNARA SCOLYMUS L. Asteraceae. Artichoke.

From Paris, France. Offshoots purchased from Vilmorin-Andrieux & Co. Received February 27, 1926.

Artichoke varieties not known in the American trade.

66184. Early Purple Globe.

66185. Green Globe or Provence.

66186. Large Flat Brittany.

66187. Large Globe or Paris Improved Large Green.

66188. Perpetual.

66189 and 66190. COFFEA spp. Rubiaceae. Coffee.

From Tananarive, Madagascar. Seeds presented by the director of agriculture. Received February 15, 1926.

66189. COFFEA sp.

No. 1.

66190. COFFEA sp.

No. 2.

66191. SACCCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Herradura, Cuba. Cuttings presented by F. S. Earle, through E. W. Brandes, Bureau of Plant Industry. Received March 1, 1926.

Co. 281. A locally grown variety.

66192 and 66193.

From the island of Mytilene, Greece. Scions purchased through P. D. Caldis, University Farm, Davis, Calif. Received March 1, 1926. Notes by Mr. Caldis.

66192. CYDONIA OBLONGA Mill. (Pyrus cydonia L.). Malaceae. Quince.

A variety formerly quite famous in Asia Minor. The fruit is large and fragrant and is eaten fresh like an apple.

66193. OLEA EUROPAEA L. Oleaceae. Olive.

Ropades. A variety commonly grown in the island of Mytilene which is said to lack the bitter flavor of other varieties.

66194 to 66247.

From Peradeniya, Ceylon. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 26, 1926.

Unless otherwise stated, the following seeds were collected at the Royal Botanic Gardens, Peradeniya.

66194. ADENANTHERA BICOLOR Moon. Mimosaceae.

No. 296. January 2, 1926. The beans of this tropical tree, unlike those of its relative, *Adenantha pavoniana*, are half red and half black like those of the *Abrus precatorius*. These seeds are very attractive for bead work, and the tree might be grown for the purpose of producing these seeds. Native to Ceylon.

66195. AGATI GRANDIFLORA (L.) Desv. (Sesbania grandiflora Poir.). Fabaceae.

No. 311. January 11, 1926. A small, rapid-growing, soft-wooded tree, 15 to 20 feet in height, with pinnate leaves and large pendulous white flowers, followed by long sickle-shaped pods. The fleshy petals are used in curries and soups in the Indian Archipelago, where this tree is native. The leaves and young shoots are sometimes used as fodder.

For previous introduction see No. 61778.

66196. AMOMUM HEMISPHERICUM (Blume) Schum. Zinziberaceae.

No. 282. January 3, 1926. A very striking and handsome species from Java, with great pinnate leaves rising from the ground to a height of 12 feet and having leaflets 2 feet long. Underneath, these leaves are the loveliest bronze-claret color, making the plant, when seen against the sunlight, a wonderful thing. Propagated usually by rhizome cuttings.

66197. ANODENDRON PANICULATUM (Roxb.) A. DC. Apocynaceae.

No. 294. January 2, 1926. The dul of Ceylon climbs to the tops of the tallest trees and forms an immense snakelike stem several inches through. It bears big pods with seeds having a long white silky coma.

66198 to 66201. ARECA CATECHU L. Phoeniceae. Palm.

This superb little palm grows everywhere in the oriental Tropics, and nobody knows whence it came; it is one of the most striking features of the landscapes here, and deserves to be thoroughly established in the western Tropics. There are at least four distinct varieties of the Areca palm in Ceylon.

For previous introduction see No. 51803.

66198. No. 313. Variety A.

66199. No. 314. Variety B.

66194 to 66247—Continued.

66200. No. 315. Variety *C*. The yellow fruit of the variety "Rata-puwak" is said to be larger than the others and is esteemed to be the best.

66201. No. 316. Variety *D*.

66202. *ARISTOLOCHIA RIDICULA* N. E. Brown. Aristolochiaceae.

No. 300. January 8, 1926. A Brazilian plant most interesting because of its fascinating fly-trapping character. The flowers hold captive the flies which fall into them for 27 hours or until other flowers are ready to receive them as they come out well dusted with pollen. Adapted for cross-pollination. It will cover a fence, forming a mass of light-green foliage.

66203. *BARYXYLUM INERME* (Roxb.) Pierre (*Peltophorum ferrugineum* Benth.). Caesalpinaceae.

No. 264. January 2, 1926. A beautiful large forest tree used extensively as a street tree in Ceylon because of its yellow flowers which are produced in early spring.

For previous introduction see No. 51810.

66204. *BROWNEA ARIZA* Benth. Caesalpinaceae.

No. 268. January 2, 1926. A small spreading leguminous tree from tropical America, with pinnate leaves which droop in a striking, limp way when young. It bears large dense round clusters of bright-scarlet blossoms.

For previous introduction see No. 42856.

66205. *CAESALPINIA BICOLOR* C. H. Wright. Caesalpinaceae.

No. 292. January 2, 1926. A tropical American flowering shrub with beautiful, orange, pendent blossoms of delicate form.

66206. *CANARIUM BENGALENSE* Roxb. Balsameaceae.

No. 267. January 2, 1926. A tall, handsome shade tree from Sylhet, British India, producing large nuts similar to those of *Canarium commune*.

66207. *CANARIUM INDICUM* Stickm. Balsameaceae.

No. 270. January 2, 1926. A forest tree from the Molukkas which, like *Canarium commune*, produces edible nuts. It is also a fine avenue tree.

66208. *CANARIUM ZEYLANICUM* (Retz.) Blume. Balsameaceae.

No. 241. January 1, 1926. The "malamekuna." A large magnificent avenue tree which is said to exude copiously a fragrant gum resin from the stem.

66209. *CASSIA GRANDIS* L. f. Caesalpinaceae.

No. 291. January 5, 1926. This leguminous tree produces masses of pale-pink flowers during February and March, at which time it is leafless. It should be very attractive for park and garden work in southern Florida where *Cassia fistula* and others of the genus have done well.

For previous introduction see No. 54706.

66210. *CHLOROXYLON SWIETENIA* DC. Meliaceae.

No. 238. January 1, 1926. The "Ceylon satin wood" tree, which was at one time exported in large quantities from Ceylon. A moderate-sized tree, growing in the so-called dry zone of Ceylon, which furnishes a very hard, heavy, fine-grained timber for turners. The "flowered wood" is said to bring a high price in London. It is also worth growing as a shade tree.

66194 to 66247—Continued.

66211. *CUCUMIS SATIVUS* L. Cucurbitaceae.
Cucumber.

No. 360. January 10, 1926. A long, rather large, russet cucumber obtained in a country market west of Kandy. The flesh is white, crisp, and of good quality.

66212. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae.
Cushaw.

No. 359. January 10, 1926. A large oblong yellow variety obtained in a country market near Kandy. The flesh is about 1½ inches thick and of a creamy yellow color.

66213. *DILLENIA BURBIDGEI* (Hook. f.) Gilg. Dilleniaceae.

No. 295. January 5, 1926. A small ornamental tree from Borneo, with large leaves and very beautiful bright-yellow flowers 2 inches across.

For previous introduction see No. 60438.

66214. *ELAEOCARPUS SERRATUS* L. Elaeocarpaceae.

No. 277. January 3, 1926. The "wild olive" of Ceylon. A moderate-sized attractive tree which bears an abundance of small olive-shaped fruits. When ripe these fruits are good to eat, having a mild acid flavor and good texture. In Ceylon they are pickled somewhat as olives are, and they are said to be very good.

For previous introduction see No. 32098.

66215. *ELAEOCARPUS* sp. Elaeocarpaceae.

No. 229. January 1, 1926. A forest tree of extremely attractive appearance, used as an avenue tree in the Royal Botanic Gardens. The leaves turn a beautiful scarlet as they fall, and the large, rather attractive green fruits are egg-shaped and a little sour, but not bad for eating.

66216. *ELETTARIA CARDAMOMUM MAJOR* (Smith) Trimen. Zinziberaceae.

No. 309. January 11, 1926. Var. *majus*. The wild species of Ceylon which does not furnish the commercial cardamoms, but is being used here as an ornamental in the herbaceous perennial borders with stunning effects. It would be excellent for use around houses to produce tropical effects in southern Florida.

66217. *ERYTHRINA* sp. Fabaceae.

No. 289. Collected on the Gompala Road, Kandy, January 6, 1926. The dadap tree is used as a shade for the tea all over Ceylon. It is a rapid grower and during the spring, when in flower, is attractive with its bright-scarlet flowers.

66218. *EUTERPE EDULIS* Mart. Phoenicaceae.
Palm.

No. 255. January 1, 1926. The Assai palm of tropical America. A very beautiful, slender-stemmed palm whose pinnate leaves, borne at the tips of the graceful stems, are waved by the slightest breeze.

For previous introduction see No. 56463.

66219. *FLACOURTIA INERMIS* Roxb. Flacourtiaceae.

No. 250. January 1, 1926. The lovi-lovi tree of Malaya is cultivated everywhere in the private gardens of Ceylon. The very acid, brilliant-red fruits are produced in immense quantities and are said to make excellent preserves. Judging from the taste of the sour fruits they would resemble cranberry preserves.

66194 to 66247—Continued.

66220. *HARPULLIA CUPANIODES* Roxb. Sapindaceae.

No. 299. January 3, 1926. The na-imbul tree of the Singhalese, who are said to use the fruits for washing purposes. Since saponin has become more valuable, it may be worth testing for its saponin content. It is suitable furthermore for avenue and shade-tree purposes.

For previous introduction see No. 39419.

66221 and 66222. *HIBISCUS SABDARIFFA* L. Malvaceae.

66221. No. 287. January 4, 1926. A deep-crimson fruited roselle, of the spreading type, which may prove superior to the variety growing in America.

66222. No. 288. Attempts to grow this variety in Ceylon for fiber have met with only partial success. It grows upright like hemp and is about as tall. Perhaps this tall-growing variety may succeed in Florida.

66223 and 66224. *LAGERSTROEMIA SPECIOSA* (Muenchh.) Pers. (*L. flos-reginae* Retz.). Lythraceae. **Crape myrtle.**

For previous introduction see No. 59315.

66223. No. 307. Collected in front of the Nursing Home, Kandy. This variety, the leaves of which fall in January, is not so showy as No. 308 [No. 66224], nevertheless it is worthy of cultivation as a street tree. It is called in Ceylon Pride of India or Queen's flower.

66224. No. 308. Collected near Kandy, January 9, 1926. Around the lake here at Kandy many of these trees have been planted, and already they are beginning to open their superb clusters of bright-pink flowers. This variety also is called in Ceylon Pride of India or Queen's flower.

66225. *LICUALA GRACILIS* Blume. **Phoenicaceae. Palm.**

No. 252. January 1, 1926. A small fan palm from Java, 5 to 7 feet high, clusters of which would grace any private garden in the Tropics.

66226. *LICUALA SPINOSA* Thunb. **Phoenicaceae. Palm.**

No. 306. January 1, 1926. A beautiful fan palm, native to Singapore and Java, with graceful stems produced in clusters 20 to 25 feet tall.

For previous introduction see No. 62104.

66227. *LYSIDICE RHODOSTEGIA* Hance. **Caesalpiniaceae.**

No. 290. January 3, 1926. A handsome leguminous tree from southern China which was introduced into Ceylon in 1882. It bears loose panicles of rose-purple flowers with pale-pink bracts and is very attractive.

66228. *MUSSAENDA LUTEOLA* Delile. **Rubiaceae.**

No. 266. January 2, 1926. A dwarf species of Rubiaceae, with small yellow flowers and large white bractlike sepals which are very showy. It reminds one slightly of our northern dogwood.

66229. *ONCOBA SPINOSA* Forsk. **Flacourtiaceae.**

No. 240. January 1, 1926. A relative of *Oncoeba echinata* whose seeds contain an oil having chaulmoogric acid in it. This species, native to Arabia, forms a small bushy tree bearing large scented white flowers and fruits the size of small apples which are reported to be edible.

For previous introduction see No. 49469.

66194 to 66247—Continued.

66230. *ONCOSPERMA FASCICULATUM* Thwaites. **Phoenicaceae. Palm.**

No. 235. January 1, 1926. The Katu-kiul palm of Indo-Malaya is one of the graceful cluster palms which make magnificent groups, 40 to 60 feet high, in the Peradeniya Gardens. The stems are spiny and therefore not suitable for small gardens, but rather for parks, to increase the tropical effect.

For previous introduction see No. 45961.

66231. *ONCOSPERMA FILAMENTOSUM* Blume. **Phoenicaceae. Palm.**

No. 275. January 3, 1926. The nibung palm of Java. A cluster palm of great beauty which rises to 50 feet and waves its pinnate leaves in the slightest breeze. Like its relative, *Oncosperma fasciculatum*, it is a spiny palm and therefore not suited for small garden uses but to parks. The great clusters of this palm are wonderfully effective.

For previous introduction see No. 51726.

66232. *ORMOSIA MONOSPERMA* (Swartz) Urban. **Fabaceae.**

No. 302. January 9, 1926. The so-called "necklace" tree because its beans are the size of large beads, three-fourths of an inch long, and of brilliant scarlet blotched with the deepest brown. They are among the most strikingly colored seeds I have ever seen and are sold in Kandy to tourists for high prices. The tree comes from tropical South America and fruits during the winter months.

For previous introduction see No. 37876.

66233. *PAYENA LEERII* (T. and B.) Kurz. **Sapotaceae.**

No. 297. January 2, 1926. The gutta sundek tree of the Malay Peninsula, of possible value as a source of gutta-percha.

66234. *PHOENIX FARINIFERA* Roxb. **Phoenicaceae. Palm.**

No. 260. January 1, 1926. A pinnate-leaved palm, native to India and Ceylon. Like most of the species of Phoenix, this will probably grow well in southern Florida.

For previous introduction see No. 41507.

66235. *PITTIOSPORUM TIMORENSE* Blume. **Pittosporaceae.**

No. 265. January 2, 1926. A tropical forest tree from the island of Timor in the Dutch East Indies. This may prove valuable as a street tree.

66236. *PTEROCARPUS ERINACEUS* Lam. **Fabaceae.**

No. 253. January 1, 1926. A very ornamental leguminous forest tree from the Philippine Islands, which is related to the species furnishing the kino gum. It bears clusters of pale-orange flowers during April. Introduced because of its suitability as an avenue tree.

For previous introduction see No. 52912.

66237. *PTYCHOSPERMA ANGUSTIFOLIA* Blume. **Phoenicaceae. Palm.**

No. 257. January 1, 1926. A tropical Australian pinnate palm which grows in great clusters. When young it is suited for pot culture, but it should be tried out in the open in southern Florida in private gardens. The small slender stems make it especially adapted for small gardens.

66238. *SABAL GLAUDESCENS* Lodd. **Phoenicaceae.**

No. 247. January 1, 1926. A handsome fan-leaved palm from Trinidad which grows to 40 or 50 feet high; it is suitable for parks.

66194 to 66247—Continued.

66239. *SIDEROXYLON* sp. Sapotaceae.

No. 310. January 11, 1926. A small-leaved variety with golden-yellow mealy flesh; in general appearance and flavor the fruits resemble those of the canistel (*Lucuma nervosa*).

66240. *STYRAX BENZOIN* Dryander. Stryaceae.

No. 237. January 1, 1926. A medium-sized tree, native to Malaya, which might prove interesting as a park tree. It yields the gum benzoin which is used as incense in churches.

For previous introduction see No. 51807.

66241. *TALINUM TRIANGULARE* (Jacq.) Willd. Portulacaceae.

No. 317. Obtained at Kandy, January 12, 1926. A low herb, with somewhat fleshy leaves and pink flowers, which is cultivated in beds in the small market gardens around Kandy. It is used in the hotels and by the Singhalese as a "spinach" or potherb, and I must say it makes a very good one.

For previous introduction see No. 59292.

66242. *TECTONA GRANDIS* L. f. Verbenaceae. Teak.

No. 283. January 4, 1926. The teak tree of India furnishes one of the most valuable timbers in the world. It is said to do best in calcareous soil.

For previous introduction see No. 49562.

66243. *TERMINALIA TOMENTOSA* (Roxb.) Wight and Arn. Combretaceae.

No. 236. January 1, 1926. The kumbuk of the Singhalese. An immense tree which sometimes grows to 45 feet in circumference around its base in the beds of rivers in the so-called dry region of Ceylon. The bark is remarkable for the amount of pure calcium carbonate which it contains, and it is burnt to obtain this pure lime, which is an ingredient of the mixture known as betel-nut quid, chewed by millions throughout the oriental Tropics.

For previous introduction see No. 61624.

66244. *TOLUIFERA RALSAMUM* L. (*Myroxylon toluiferum* H. B. K.). Fabaceae. Tolu.

No. 286. January 3, 1926. A leguminous tree of South America which, in the Peradeniya Gardens, makes a beautiful park tree. It is said to thrive in dry districts as well as moist ones, and I imagine would prove a good avenue tree.

For previous introduction see No. 42720.

66245. *TOLUIFERA PEREIRAE* (Klotzsch) Baill. (*Myroxylon pereirae* Klotzsch). Fabaceae.

No. 272. January 2, 1926. Balsam of Peru is obtained from the base of this tropical American leguminous tree. It is probably a good street tree.

For previous introduction see No. 38977.

66246. *TRACHYLOBUM VERRUCOSUM* (Gaertn.) Oliver. Caesalpiniaceae.

No. 231. January 1, 1926. A tall and very attractive forest tree from East Africa which would make an excellent avenue tree, and whose copal resin may prove to have special value. The curious fruits are covered with pustules filled with inflammable gum, which, if lighted, will burn.

For previous introduction see No. 60323.

66247. *TRICHOSANTHES* sp. Cucurbitaceae.

No. 305. January 8, 1926. A vine with very showy scarlet fruits, 2 inches in diameter, which are extremely ornamental but poisonous.

66248 to 66256.

From Ceylon, India. Seeds collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 4, 1926.

66248 to 66254. From the agricultural experiment station near the villages of Gangoruwa and Yatinalagal, in the district of Kandy, January 23, 1926.

66249. *BRADBURYA PUBESCENS* (Benth.) Kuntze (*Centrosema pubescens* Benth.). Fabaceae.

No. 371. A creeping leguminous vine used as a cover crop in a rubber plantation here.

For previous introduction see No. 32780.

66249. *CRACCA CANDIDA* (DC.) Kuntze (*Tephrosia candida* DC.). Fabaceae.

No. 366. A white-flowered shrubby perennial, 4 to 7 feet high, which yields four cuttings a year or 58 tons of green manure per acre.

For previous introduction see No. 60642.

66250. *CRACCA VOGELII* (Hook. f.) Kuntz (*Tephrosia vogelii* Hook. f.). Fabaceae.

No. 374. A very strong-growing cover crop with velvety brown pods.

For previous introduction see No. 49995.

66251. *CROTALARIA ANAGYROIDES* H. B. K. Fabaceae.

No. 368. A very strong rank grower with large clusters of yellow flowers.

66252. *CROTALARIA USARAMOENSIS* Baker f. Fabaceae.

No. 365. A very strong grower, 8 feet or more in height, with long spikes of yellow flowers which are tinged with bronze. This green-manure crop is being used extensively.

For previous introduction see No. 57331.

66253. *INDIGOFERA ENDECAPHYLLA* Jacq. Fabaceae.

No. 369. An annual or biennial leguminous plant which has become popular as a cover plant in Ceylon, according to the Tropical Agriculturist (vol. 63, October, 1924). The trailing stems are 1 to 2 feet long and the violet-purple flowers are in dense racemes.

For previous introduction see No. 63605.

66254. *MEIBOMIA GYROIDES* (DC.) Kuntze (*Desmodium gyroides* DC.). Fabaceae.

No. 370. A shrubby leguminous plant, 8 to 10 feet high, from the warmer parts of the central and eastern Himalayas. It has hairy leaves and terminal clusters of reddish purple flowers.

For previous introduction see No. 61613.

66255. *OROXYLON INDICUM* (L.) Vent. Bigno-niaceae.

No. 362. Kandy, January 21, 1926. A tropical Asiatic ornamental tree, sometimes 40 feet high, with glossy compound leaves 2 to 4 feet across and terminal panicles of white to purple flowers. The large flat pods, up to 3 feet long, contain winged seeds.

For previous introduction see No. 35415.

66256. *PUERARIA PHASEOLOIDES* (Roxb.) Benth. Fabaceae.

No. 372. From the agricultural experiment station near the villages of Gangoruwa and Yatinalagal, in the district of Kandy, January 23, 1926. A twining, semishrubby plant densely covered with brown hairs, which is native to the tropical regions of the eastern Himalayas. The leaflets are green above and densely matted with gray hairs beneath. The reddish flowers are borne in copious long-stemmed racemes.

66257 to 66259.

From Keijyo, Chosen, Japan. Seeds presented by Dr. M. Tozawa, director, Forest Experiment Station. Received March 9, 1926.

66257. *ABIES HOLOPHYLLA* Maxim. Pinaceae.
Manchurian fir.

Collected at Potschonkjongdo. A tall, handsome Manchurian fir, eventually 100 feet or more in height, with stout spreading or ascending branches and dark-green foliage.

For previous introduction see No. 65906.

66258. *FRAXINUS CHINENSIS RHYNCHOPHYLLA* (Hance) Hemsl. Oleaceae. Ash.

Collected at Anpjon, Sudhamjongdo. A rather small ash, 40 feet or less in height, with dark-green leaves, lighter beneath, consisting of five to seven narrowly oblong, irregularly toothed leaflets 2 to 5 inches long.

66259. *SYRINGA DILATATA* Nakai. Oleaceae.
Lilac.

Collected at Hwanghaido. A hardy compact shrub about 12 feet high, with heart-shaped, bright-green leaves and dense panicles of pale-lilac flowers. Native to Chosen.

66260 to 66266.

From Ceylon and Italy. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 12, 1926.

66260. *AMOMUM MAGNIFICUM* (Roscoe) Benth. and Hook. Zinziberaceae.

No. 363. From the Peradeniya Botanic Garden, Kandy, Ceylon, January 21, 1926. A variety with large pink flower heads on erect stalks, $2\frac{1}{2}$ to 3 inches or more high.

66261. *ARBUTUS CANARIENSIS* Duham. Ericaceae.

No. 228. These seeds were presented by Professor Cavara, director, Naples Botanic Garden, November 14, 1925. A beautiful tree with smooth bark and evergreen leaves, resembling our California *Arbutus menziesii*. It is a rather rare tree in the Canary Islands.

For previous introduction see No. 56529.

66262. *ARISTEA ECKLONI* Baker. Iridaceae.

No. 380. Collected near Hakgalla Garden, in the region of Kandy, Ceylon, January 27, 1926. An iridaceous plant from South Africa which has become naturalized in the high altitudes of Ceylon. Though rather small, it is very pretty with its brilliant blue flowers.

66263. *BOTOR TETRAGONOLOBA* (L.) Kuntze (*Psophocarpus tetragonolobus* DC.). Fabaceae.
Goa bean.

No. 341. From Peradeniya, Ceylon, February 1, 1926. A bean with winged pods, much used in curries by the Singhalese. The wings are torn off before cooking.

For previous introduction see No. 51765.

66264. *ELAEOCARPUS SPHAERICUS* (Gaertn.) Schum. (*E. ganitrus* Roxb.). Elaeocarpaceae.

No. 385. From the Botanical Gardens, Peradeniya, February 3, 1926. A good-sized ornamental tree which bears small blue fruits about the size of a plum. The seeds are rough and attractive and when dry may be used as hat pin heads.

For previous introduction see No. 50696.

66260 to 66266—Continued.

66265. *HIBISCUS SABDARIFFA* L. Malvaceae.

No. 332. Presented by the director of the Peradeniya Experiment Station, Ceylon, January 29, 1926. A tall straight-growing variety which furnishes an excellent fiber for the manufacture of bags.

For previous introduction see No. 66222.

66266. *PRUNUS ARMENIACA* L. Amygdalaceae.
Apricot.

No. 342. Kandy, Ceylon, January 29, 1926. This variety is from the upper hill country of India. The fruits are dried with the seed in them and are never cut open or halved. When stewed they have a delicious flavor.

66267 to 66269.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 12, 1926. Notes by Mr. Dorsett.

66267. *EVODIA* sp. Rutaceae.

No. 4814. Dairen, Manchuria. November 28, 1925. A good-sized tree, 10 inches in diameter and 25 to 30 feet high, with smooth grayish bark, which was growing in a playground park between the Yamato Hotel and the water front. The shiny black seeds have a spicy odor.

66268. *GLEDITSIA* sp. Caesalpiniaceae.
Honey locust.

No. 4817. Dairen, Manchuria. November 28, 1925. This tree was also growing in a playground park. It is a small tree and has large thorns which are more or less flattened.

66269. *PINUS* sp. Pinaceae. Pine.

No. 4818. Tsingtao, China. December 1, 1925. The small trees were growing in an exposed situation in poor gravelly clay soil.

66270 to 66324.

From Elstree, Herts, England. Plants presented by Edwin Beckett, superintendent, Aldenham House Gardens. Received March 19, 1926.

66270 to 66278. *ASTER* spp. Asteraceae. Aster.66270. *ASTER* sp.

Dainty. A very delicate semidouble pink variety.

66271. *ASTER* sp.

Grace Sweet. One of the finest deep blues yet raised.

66272. *ASTER* sp.

Gray Lady. A large semidouble opal-gray flowered variety which is very distinct and lovely.

66273. *ASTER* sp.

Moonbeams. A pale-mauve variety with large flowers which is especially pretty.

66274. *ASTER* sp.

Pink Perfection. A very true bright-pink variety.

66275. *ASTER* sp.

Queen of the Lilacs. A variety with large, glorious pale lilac-blue flowers.

66276. *ASTER* sp.

Snowdrift. A semidouble snow-white flowered variety of attractive branching pyramidal habit.

66270 to 66324—Continued.

66277. *ASTER* sp.

Sunset. A very pretty variety with single pink flowers.

66278. *ASTER* sp.

Wedgewood. The flowers of this variety are a lovely shade of porcelain blue.

66279. *BERBERIS ARISTATA* DC. Berberidaceae.
Barberry.

An almost evergreen form, native to the Himalayas, which has a fine coloring in the fall. The flowers, produced freely about July, are in racemes 2 to 3 inches long. The fruits are long and red, covered with a bluish white bloom.

For previous introduction see No. 60378.

66280. *BUDDLEIA FALLOWIANA* Balf. f. and W. W. Smith. Loganiaceae.

A white-flowered variety with very white woolly leaves.

66281. *BUDDLEIA DAVIDII* Franch. Loganiaceae.

Var. *nanhoensis*. A Chinese variety of spreading habit, which produces an abundance of bright rosy mauve flowers.

66282. *SIMMONDSIA CHINENSIS* (Link) C. Schneid. (*S. californica* Nutt.). Buxaceae.

A much-branched evergreen shrub, 5 to 15 feet high, with small, narrow-oblong, leathery leaves. Native to southwestern California and western Mexico.

66283. *COROKIA COTONEASTER* Raoul. Cornaceae.

An evergreen shrub, native to New Zealand, with curiously interlacing branches and small yellow flowers.

66284. *CORLYUS* sp. Betulaceae. Hazel.

This is probably the Tibetan hazel. It makes a fine and interesting tree.

66285 and 66286. *CHAMAECYPARIS LAWSONIANA* (Murray) Parl. Pinaceae. Lawson cypress.

For previous introduction see No. 62706.

66285. Var. *nana*. A dwarfish plant, generally broader than high, and of rounded habit.66286. Var. *nana glauca*. A low-growing dwarf form with glaucous leaves, which is suitable for rock gardens.66287. *CHAMAECYPARIS OBTUSA* (Sieb. and Zucc.) Endl. Pinaceae.

Var. *pygmaea*. A dwarf form of rounded habit, which makes an excellent conifer for the rock garden.

66288. *DEUTZIA SCABRA* Thunb. Hydrangeaceae.

Var. *latiflora*. A tall-growing, very floriferous variety with big panicles of large white flowers which are sometimes tinged with pink on the outer side of the petals.

66289. *DEUTZIA WILSONI* Duthie. Hydrangeaceae.

A very handsome Chinese shrub with reddish-brown bark, soon peeling, and scabrous oblanceolate leaves 3 to 4½ inches long. The white flowers, nearly 1 inch across, are in open corymbs, and the petal margins are wavy and hooded.

For previous introduction see No. 49946.

66270 to 66324—Continued.

66290. *DIERVILLA FLORIBUNDA* Sieb. and Zucc. Caprifoliaceae. Crimson weigela.

Var. *Aldenham Glow*. A choice deep-scarlet flowered form resembling *Eva Rathke*.

66291. *FORSYTHIA INTERMEDIA* Zabel. Oleaceae.

Var. *spectabilis*. A wonderful golden-yellow flowered hybrid variety.

66292. *HEUCHERA* sp. Saxifragaceae.

A plant 3 feet high with beautiful soft-rose flowers.

66293. *JASMINUM HETEROPHYLLUM* Roxb. Oleaceae.

Var. *glabricymosum*. A strong-growing bush jasmine introduced from China by G. Forrest, which bears an abundance of golden-yellow blossoms.

66294. *LESPEDEZA CYRTBOTRYA* Miquel. Fabaceae. Bush clover.

A small, deciduous bush clover, native to Japan and Chosen, which produces during August racemes of rosy purple pea-shaped flowers.

For previous introduction see No. 62863.

66295. *LIGUSTRUM CONFUSUM* Decaisne. Oleaceae. Privet.

A small tree, up to 40 feet in height, which is one of the tropical relatives of the California privet (*Ligustrum ovalifolium*). The leathery, obtuse leaves are about 3 inches long, and the small white flowers are in panicles 1 to 5 inches long.

For previous introduction see No. 60651.

66296. *LIGUSTRUM CORIACEUM* Carr. Oleaceae.

A quaint, glossy, leathery-leaved evergreen, native to Japan.

66297. *LONICERA CHAETOCARPA* Rehder. Caprifoliaceae. Honeysuckle.

This was originally collected in Kansu, western China, by E. H. Wilson. It is described (Curtis's Botanical Magazine, pl. 8804) as a shrub of compact habit, about 5 feet in height. The oblong leaves are bright green and more or less hairy, and the flowers, an inch or more in length, open in early June and are a pleasing primrose yellow.

For previous introduction see No. 62391.

66298. *MALUS SYLVESTRIS* Mill. (*Pyrus malus* L.). Malaceae. Apple.

Var. *Excellenz Thiel*. A very graceful weeping tree of German origin, having narrow leaves. The boughs hang down close to the trunk.

66299. *MORUS ACIDOSA* Griffith. Moraceae. Acid mulberry.

As described by Sargent (Plantae Wilsonianae, vol. 2, p. 300), this is usually a broad shrub from 3 to 16 feet in height, but occasionally it is a tree 25 feet tall. It is found in the Provinces of Hupeh and Szechwan, China. The leaves are very variable in size and shape and are not used for feeding silkworms. The fruits are dark red or shining black and are quite palatable.

For previous introduction see No. 46532.

66300. *MYRTUS COMMUNIS TARENTINA* L. Myrtaceae.

The Tarentum myrtle. A small-leaved variety, especially fine for walls, bearing small white fragrant flowers.

66270 to 66324—Continued.

66301. *ONONIS FRUTICOSA* L. Fabaceae.

A spreading deciduous European shrub, with almost stalkless trifoliolate leaves, and pink flowers which are produced during July and August.

66302. *ONONIS ROTUNDIFOLIA* L. Fabaceae.

A hardy shrubby plant, about a foot high, with trifoliolate leaves and bright-pink pealike flowers produced freely throughout the summer. Native to southern Europe.

66303 and 66304. *PHILADELPHUS LEMOINEI* Lemoine. Hydrangeaceae.

66303. Var. *purpureo-maculatus*. A very pretty and fragrant variety, producing flowers well expanded with round white petals which carry a deep-pink blotch at the base.

66304. *Sylwaine*. A variety producing large well-opened flowers with broad petals which are white tinged with pink in the center.

66305. *PICEA LAXA* (Ehrh.) Sarg. Pinaceae.
White spruce.

Var. *albertiana*. A pretty slow-growing conifer of very compact habit and glaucous tone.

66306. *RHAMNUS RUPESTRIS* Scop. Rhamnaceae.

A low-spreading European shrub with fruits that are first red, then black.

66307. *RIBES LAURIFOLIUM* Jancz. Grossulariaceae.

A very fine and distinct Chinese evergreen with beautiful leaf buds during the dormant period; the flowers are greenish yellow in long racemes.

For previous introduction see No. 56061.

66308. *RIBES VICARI* Hort. Grossulariaceae.

An evergreen of trailing habit, very distinct, with highly aromatic leaves and dull-pink flowers.

66309. *RUBUS IRENAEUS* Focke. Rosaceae.

An evergreen creeping shrub, native to western China, with simple, nearly round leaves, white flowers half an inch across, and yellow fruits.

For previous introduction see No. 44401.

66310. *RUBUS* sp. Rosaceae.

Hers. 2706. A new species with soft hairy leaves, three-leaved, at times five, or divided into two small leaflets at the base, with a larger one at the apex of the leaf.

66311. *RUSCUS ACULEATUS* L. Convallariaceae.
Butcher's-broom.

Var. *hermaphroditus*. A superior form of the butcher's-broom, more handsome in foliage and fruit, and bearing an abundance of red berries which are retained for a very long time.

For previous introduction see No. 26882.

66312. *STRANVAESIA DAVIDIANA UNDULATA* (Decaisne) Rehd. and Wils. Malaceae.

A low spreading evergreen shrub, or occasionally a small tree, native to western China. The leathery narrowly oval leaves are glossy green and 1 to 3 inches long, and the white flowers, about half an inch across, appear in terminal clusters. Its greatest charm as an ornamental is the abundant crop of bright-red fruits.

For previous introduction see No. 61993.

66313 to 66315. *SYRINGA* spp. Oleaceae Lilac.

66270 to 66324—Continued.

66313. *SYRINGA VILLOSA* × *JOSIKAEAE*.

Var. *lutece*. The enormous panicles of deep-violet flowers, which are very fine in the bud, are produced abundantly during May.

66314. *SYRINGA PALIBINIANA* Nakai.

A very pretty lilac from China, with stiff panicles of red-purple flowers and small dark foliage.

66315. *SYRINGA YUNNANENSIS* Franch.

A handsome species related to *Syringa wilsonii* but with pale pink flowers in big panicles. The downy leaves have a distinct red midrib, the color being continued through the leaf stalk.

66316. *TRITOMA* sp. Liliaceae.

Var. *Lord Roberts*. A very fine variety with effective spikes of bright coral red.

66317. *VERONICA GAUNTLETHII* Hort. Scrophulariaceae.

A very beautiful hybrid form with 6-inch spikes of salmon-pink flowers.

66318. *VERONICA SPICATA* L. Scrophulariaceae.

Var. *rosea*. The spikes, 1 foot in length, of pink flowers are very attractive.

66319 to 66324. *VIBURNUM* spp. Caprifoliaceae.66319. *VIBURNUM FRAGRANS* Bunge.

A very early-flowering species introduced from China by Farrer. The flowers are deliciously fragrant and are shaded with rose.

For previous introduction see No. 62741.

66320. *VIBURNUM HARRYANUM* Rehd.

An evergreen which is very distinct, with small round quaint leaves and long black fruits.

For previous introduction see No. 62742.

66321. *VIBURNUM ODORATISSIMUM* Ker.

An exceptionally fine evergreen with shining leathery leaves up to 8 inches long. The fragrant white flowers are produced in large broad panicles and are followed by red fruit which turns black as it ripens.

66322. *VIBURNUM PROPINQUUM* Hemsl.

A distinct evergreen shrub from China, with greenish white flowers produced in good-sized cymes which are followed by blue-black fruit.

For previous introduction see No. 62744.

66323. *VIBURNUM UTILE* Hemsl.

A handsome hardy evergreen shrub of rather open habit with dark glossy green leathery leaves and pure white flowers produced in dense terminal rounded trusses in May. These are succeeded by oval blue-black berries. The shrub is native to western China, where it is said to grow on limestone soils.

For previous introduction see No. 63688.

66324. *VIBURNUM* sp.

In appearance this resembles *Viburnum venosum*, but is very early flowering. A native of China.

66325 to 66335. *ORYZA SATIVA* L.
Poaceae. Rice.

From Assam, India. Seeds presented by P. M. Ganguli, botanical assistant, Karimganj Farm. Received March 17, 1926.
Indian varieties.

66325 to 66335—Continued.

66325. *Ar. 1. Badal.*66326. *Ar. 28. Birbak.*66327. *S. 14. Hati.*66328. *S. 15. Tulshijoha.*66329. *S. 22. Lati.*66330. *S. 149. Ināra.*66331. *S. 155. Badshabhog.*66332. *S. 156. Nagra.*66333. *S. 161. Dhepi.*66334. *S. 233. Basantabhar.*66335. Mixed seeds of *S. 154 George* and *S. 156 Nagra*.66336 and 66337. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Copenhagen, Denmark. Seeds presented by L. P. M. Larsen, Danish Royal Agricultural Society. Received March 18, 1926.

66336. *Tystofte No. 40.* An early red clover.66337. *Hersnap.* A late red clover; a good yielder.66338. *BELOU MARMELOS* (L.) Lyons (*Aegle marmelos* Correa). Rutaceae. Bel.

From Kandy, Ceylon. Scions collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 12, 1926.

No. 336. From a tree near the home of Ratwatte Disawa, grandson of the former King of Kandy. A variety with abortive seeds and of excellent quality though rather small. The disawa told us that he eats one of these fruits for breakfast every morning, and that his father practically lived on them during the latter years of his life.

For previous introduction see Nos. 65793 and 65794.

66339. *CANNA EDULIS* Ker. Cannaceae. Edible canna.

From San Juan, Porto Rico. Rhizomes presented by O. W. Barrett, agricultural director, Department of Agriculture and Labor. Received March 23, 1926.

A close relative of the ornamental cannas, cultivated for its edible tubers, which contain a large percentage of starch. The plant is very vigorous and often becomes 9 feet high, with handsome bronze-green leaves and scarlet flowers. When properly cooked the tubers are very palatable; according to F. G. Krauss, of the Hawaii Agricultural Experiment Station, they should be boiled for 30 minutes and then mashed like boiled potatoes. Prepared thus they are comparable to potatoes in taste and in Hawaii the yield is more than twice as great. As much as 60 pounds of tubers have been obtained from a single hill. The tops can be used as forage for cattle and swine.

It is as a commercial source of starch, however, that the edible canna is most promising. In Australia it is grown for this purpose in preference to the Bermuda arrowroot (*Maranta arundinacea*), because of its much higher yield. A deep rich well-drained soil and moderate rainfall are necessary for the successful cultivation of this plant. In the United States it will probably have to be grown as an annual, except in the warmest parts of Florida.

For previous introduction see No. 46313.

66340. *ATALANTIA MISSIONIS* (Wight) Oliver. Rutaceae.

From Jaffna, Ceylon. Scions collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 26, 1926.

Mr. Fairchild's No. 345. The pamburu of the Singhalese and kuruntu of the Tamils. A native Ceylon tree with white flowers and very sweet fruits which are like small, dark oranges. Native to the dry district of Ceylon.

66341 to 66419.

From Tiehlingho, Kirin Province, Manchuria. Seeds presented by A. D. Woeikoff, director, Experimental Farm, Echo. Received March, 1926.

66341. *AGROPYRON STRIGOSUM* (Bieb.) Boiss. Poaceae. Grass.

No. 2. A perennial cespitose grass, native to Turkestan, with long narrow panicles and short narrow rigidly acuminate leaves.

66342. *AGROPYRON* sp. Poaceae. Grass. No. 5a.66343. *AMPELOPSIS BREVIPEDUNCULATA* (Maxim.) Koehne. Vitaceae.

No. 74. A handsome strong-growing vine, native to eastern Asia, which is particularly attractive in autumn with its clusters of deep-blue berries; it is well adapted for covering trellises and low walls.

For previous introduction see No. 63332.

66344. *ASPARAGUS SCHOBERIODES* Kunth. Convallariaceae.

No. 57. An erect hardy herbaceous perennial asparagus, 3 feet or less in height, with red berries. Native to eastern Asia.

For previous introduction see No. 33309.

66345. *CALAMAGROSTIS EPIGEJOS* (L.) Roth. Poaceae. Grass.

No. 1. A stout perennial grass native to Manchuria.

For previous introduction see No. 57279.

66346. *CALAMAGROSTIS* sp. Poaceae. Grass. No. 3a. A stout perennial Manchurian grass.66347 to 66365. *CHAETOCLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.66347. No. 185. *Nien ku tsa* (yellow glutinous). Originally from Ninguta district, Kirin Province.66348. No. 187. *P'ai fang ku* (white). Originally from Ninguta district, Kirin Province.66349. No. 188. *Fang ku tsa*. Originally from Ninguta district, Kirin Province.66350. No. 190. *Fang ku tsa* (light yellow). Originally from Ninguta district, Kirin Province.66351. No. 193. *Fang ku tsa* (light yellow). From Ninguta district, Kirin Province.66352. No. 194. *Fang ku tsa*. From Tungpingsien district, Kirin Province.66353. No. 197. *Fang ku tsa* (light yellow). From Tungpingsien district, Kirin Province.66354. No. 199. *Fang ku tsa*. From Ninguta district, Kirin Province.

66341 to 66419—Continued.

66355. No. 201. *Hung ku tsu* (red). From Ninguta district, Kirin Province.

66356. No. 202. *Hung niang ku tsu* (red glutinous). From Ninguta district, Kirin Province.

66357. No. 205. *Hung nien ku tsu* (glutinous). From Ninguta district, Kirin Province.

66358. No. 918. *Hung niang* (glutinous). From Achiho district, Kirin Province.

66359. No. 924. *Pai ku tsu* (white). From Ninguta district, Kirin Province.

66360. No. 925. *Pai ku tsu* (white). From the Government Agricultural Experiment Station, Peking, China.

66361. No. 926. *Hung ku tsu*. From the Government Agricultural Experiment Station, Peking, China.

66362. No. 927. *Pah tah yil*. From the agricultural experiment station, Kungchuling, South Manchurian Railway, Mukden Province, Manchuria.

66363. No. 928. *Sui li chang*. From the agricultural experiment station, Kungchuling, South Manchurian Railway, Mukden Province, Manchuria.

66364. No. 929. *Pao pah chi*. From the agricultural experiment station, Kungchuling, South Manchurian Railway, Mukden Province, Manchuria.

66365. No. 930. *Pai sha*. From the agricultural experiment station, Kungchuling, South Manchurian Railway, Mukden Province, Manchuria.

66366. *EUONYMUS MAACKII* Rupr. Celastraceae.

No. 84. A large shrub or small tree with oval-oblong finely toothed leaves about 3 inches long and small pink 4-lobed fruits with orange-red arils. Native to northeastern Asia.

66367. *EUONYMUS MACROPTERUS* Rupr. Celastraceae.

No. 65. A shrub or small tree, about 20 feet high, with narrowly oval, wedge-shaped leaves, dense clusters of yellowish flowers, and pink fruits. Native to northeastern Asia.

66368 to 66393. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

66368. No. 163. *Nien kaoliang*. From Ninguta district, Kirin Province.

66369. No. 166. *Hung kaoliang* (red). From Ninguta district, Kirin Province.

66370. No. 167. *Hung kaoliang* (red). From Tungpinghsien district, Kirin Province.

66371. No. 171. *She jen* (snake eye). From Ninguta district, Kirin Province.

66372. No. 801. A yellow variety from the experiment farm, Chinese Eastern Railway, Harbin, Manchuria.

66373. No. 815. *Nien*. From the commercial agency of the Chinese Eastern Railway, Laoshakou, Kirin Province.

66374. No. 817. *Lao tou pai*. From the commercial agency of the Chinese Eastern Railway, Laoshakou, Kirin Province.

66375. No. 824. *Pai kaoliang*. From Ninguta district, Kirin Province.

66376. No. 834. *Dun a hsiang kaoliang*.

66377. No. 835. *Hung mao mung*. From the Government Agricultural Experiment Station, Peking, China.

66341 to 66419—Continued.

66378. No. 836. *Hei ko she jen hung*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66379. No. 838. *Huang ko chin sui*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66380. No. 839. *Huang ko san sui*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66381. No. 840. *Hei ko san sui*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66382. No. 841. *Hung ko san sui*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66383. No. 842. *Hsia tsu fang pai yen*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66384. No. 843. *Lao mu chu pu tai tou*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66385. No. 844. *Hei ko shuang sih pan*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66386. No. 846. *Hung ko tai she yen*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66387. No. 847. *Hei hsin pang*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66388. No. 848. *Ku po hsiang*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66389. No. 849. *Lao ku tso*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66390. No. 850. *Huang jen peng*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66391. No. 851. *Hien*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66392. No. 852. *Huang nien*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66393. No. 853. *Pai kaoliang*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66394. *LILIUM HANSONI* Leichtl. Liliaceae.

Lily.

No. 72. A Japanese lily with smooth stems 3 to 5 feet high, horizontal leaves about 4 inches long, and 1 to 10 slightly fragrant golden-yellow flowers spotted with purplish brown.

66395. *MISCANTHUS SACCHARIFLORUS* (Maxim.) Hack. Poaceae. Grass.

No. 23. A tall perennial Chinese grass with large feathery fan-shaped panicles; related to sugar cane.

66341 to 66419—Continued.

66396. *PHILADELPHUS SCHRENBH* Rupr. Hydrangeaceae.

No. 108. An upright shrub closely related to the common "syringa" or mock orange; it has smaller flowers. Native to Manchuria.

66397. *PRUNUS MAXIMOWICZII* Rupr. Amygdalaceae. Korean cherry.

No. 125. A large handsome tree, about 50 feet high, with horizontally spreading branches, coarsely double-toothed leaves, white flowers about three-fourths of an inch across, and black fruits about the size of peas. Native to north-eastern Asia.

For previous introduction see No. 43867.

66398 to 66400. *RHAMNUS* spp. Rhamnaceae.

66398. *RHAMNUS DAURICA* Pall.

No. 82. A large spreading shrub, sometimes a tree 30 feet high, with stout thorny branches, oblong dark-green leaves 2 to 4 inches long, and clusters of black berries about a third of an inch in diameter. Native to eastern Asia.

For previous introduction see No. 62230.

66399. *RHAMNUS DAURICA NIPPONICA* Makino.

No. 88. A Japanese variety of the preceding [No. 66398] with narrower leaves, light green beneath, 2 to 6 inches long.

For previous introduction see No. 43873.

66400. *RHAMNUS PARVIFOLIA* Bunge.

No. 53. A *Rhamnus* of dense growth, having small foliage and bearing large jet-black berries. The shrub does not grow tall but assumes a well-rounded form when not mutilated. Of value as a garden and park shrub and as material for medium-sized hedges, especially for the drier sections of the United States. (Note by Frank N. Meyer under No. 38735.)

66401 to 66418. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

66401. No. 277. *Huang tou tau*.

66402. No. 1153. A black variety from the experiment farm, Chinese Eastern Railway, Harbin, Manchuria.

66403. No. 1159. A black variety with gray pubescence. From the experiment farm, Chinese Eastern Railway, Harbin, Manchuria.

66404. No. 1237. *Hei tou*. From Ninguta district, Kirin Province.

66405. No. 1238. *Yuan tou* (yellow). From Ninguta district, Kirin Province.

66406. No. 1239. *Huang tou*. From Ninguta district, Kirin Province.

66407. No. 1243. *Kaiyuan pai hua*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66408. No. 1249. *Sepingchieh hei chi*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66409. No. 1250. *Kungchuling won sin hei shih*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66410. No. 1255. *Hsia er tai*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66341 to 66419—Continued.

66411. No. 1256. *Mukden hei chi*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66412. No. 1275. *Er shih li pao*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66413. No. 1259. *Hsiao hei chi*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66414. No. 1261. *Kuei tzu yen*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66415. No. 1263. *Sau li huan improved* No. 4.

66416. No. 1270. *Ju shu tai*. From the agricultural experiment station, South Manchurian Railway, Kungchuling, Mukden Province, Manchuria.

66417. No. 1299. A yellow variety with a black brow. From the experiment farm, Chinese Eastern Railway, Harbin, Manchuria.

66418. No. 1802. *Kirin* (green). From the commercial agency of the Chinese Eastern Railway, Laoshakou, Kirin Province.

66419. *SPODIOPOGON SIBIRICUS* Trin. Poaceae. Grass.

No. 24. A perennial grass, 2 to 3 feet high, occurring on mountain slopes on decomposed porphyritic rock in partial shade. Possibly of forage value in the Rocky Mountain localities. (Note by Frank N. Meyer under No. 44283.)

66420 and 66421. *COCOS NUCIFERA* L. *Phoenixaceae*. Coconut.

From Jaffna, Ceylon. Seeds collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 26, 1926.

The two most valuable coconut varieties which are grown here. They are not good for copra production, but are good for drinking and household purposes.

66420. No. 337. February 1, 1926. The King coconut is the handsomest of the coconuts, having nuts of a golden yellow color and smooth texture at the stage when they are cut for drinking purposes. The trees and fruits are smaller than those of the ordinary varieties, but as a landscape tree it is by far the prettiest.

66421. No. 338. February 1, 1926. The Nawasi, though not beautiful, is a curiosity. The base of the husk is edible, refreshing, and sweet, and in texture it reminds one of a turnip. It is one of the best varieties for drinking purposes, and when the milk is at its maximum the fruit is still green in color.

66422 to 66481.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, regius keeper, Royal Botanic Garden. Received March 10, 1926.

Locally grown seeds introduced for testing as vegetables and also as ornamentals.

66422 to 66435. *ALLIUM* spp. Liliaceae.

66422. *ALLIUM ASCALONICUM* L. Shallot.

For previous introduction see No. 52319.

66422 to 66481—Continued.

66423. *ALLIUM ASCHERSONIANUM* Barbey.
Onion.

A herbaceous perennial onion, with pink flowers. Native to Asia Minor.

66424. *ALLIUM BIDWILLIAE* S. Wats. Onion.

A pink-flowered onion about a foot high, native to the Sierra Madre Mountains, California.

66425. *ALLIUM CERNUUM* Roth.
Nodding onion.

The flowers of this onion are rose colored or white, produced in open, nodding umbels. Native to the eastern United States.

66426. *ALLIUM CYANEUM* Regel. Onion.

A rather dwarf plant, less than a foot high, with little pendulous bright-blue flower heads. Native to northern China.

66427. *ALLIUM FALLAX* Schult. f.

A perennial Austrian onion with lilac-purple flowers.

66428. *ALLIUM HYMENORRHIZUM* Ledeb.

A perennial moisture-loving Russian species with linear leaves and purplish violet flowers.

For previous introduction see No. 60227.

66429. *ALLIUM MACRANTHUM* Baker.

A handsome herbaceous perennial from the eastern Himalayas. The flat leaves are over a foot long, and the mauve-purple flowers are produced in clusters of 50 or more on scapes 2 feet high.

For previous introduction see No. 59975.

66430. *ALLIUM ORIENTALE* Boiss.

A perennial pink-flowered onion, native to Asia Minor.

66431. *ALLIUM PARADOXUM* (Bieb.) Don.

A perennial onion, a foot high, with white flowers. Native to Siberia.

66432. *ALLIUM SIKKIMENSE* Baker.

A compact, neat little perennial 6 inches high or more, with grasslike leaves and loose umbels of deep-blue flowers. Native to Sikkim, India.

For previous introduction see No. 58884.

66433. *ALLIUM URCEOLATUM* Regel.

An onion, native to Turkestan, with linear leaves and bright-blue flowers borne in a hemispherical head.

66434. *ALLIUM VICTORIALIS* L.

One of the most distinct species of European Alliums, with stems about a foot and a half high and leaves resembling those of the lily-of-the-valley. The white or greenish white flowers are produced in May.

For previous introduction see No. 59351.

66435. *ALLIUM WALLICHIANUM* Steud.

A tall, eastern Asiatic onion, with narrow flat leaves about 3 feet long and purple flower heads.

66436 to 66451. *ASTRAGALUS* spp. Fabaceae.
Milk vetch.

66436. *ASTRAGALUS ARMENIACUS* Boiss.

A perennial caespitose herbaceous plant, with ochre-yellow flowers. Native to Armenia.

66422 to 66481—Continued.

66437. *ASTRAGALUS ASPER* Jacq.

An erect herbaceous perennial with yellow flowers, native to southern Russia.

For previous introduction see No. 20645.

66438. *ASTRAGALUS CHLOROSTACHYS* Lindl.

A herbaceous perennial, native to the Himalayas, with greenish-yellow flowers.

66439. *ASTRAGALUS ECHINUS* DC.

A densely branched spiny shrub from the alpine regions of Syria.

66440. *ASTRAGALUS FALCATUS* Lam.

An erect herbaceous perennial with yellow flowers, native to southern Russia and western Siberia.

For previous introduction see No. 34992.

66441. *ASTRAGALUS GLYCYPHYLLOS* L.

A prostrate, spreading herbaceous perennial native to Asia Minor.

For previous introduction see No. 20739.

66442. *ASTRAGALUS GUMMIFER* Labill.

A densely branched spiny shrub native to dry mountain areas in Syria.

66443. *ASTRAGALUS HYPOGLOTTIS* L.

An ascending or diffuse herbaceous perennial with purple flowers, native to the Caucasus.

66444. *ASTRAGALUS PENTAGLOTTIS* L.

A spreading annual leguminous plant with purplish flowers. Native to the Mediterranean region.

66445. *ASTRAGALUS PODOCARPUS* Meyer.

An erect herbaceous perennial, 1 or 2 feet high, native to Asia Minor.

66446. *ASTRAGALUS PURPUREUS* Lam.

A low perennial trailing plant with purple flowers. Native to southern Europe.

66447. *ASTRAGALUS ROBBINSII* (Oakes) A. Gray.

An erect white-flowered perennial, native to the northeastern United States.

66448. *ASTRAGALUS SULCATUS* L.

An erect herbaceous perennial up to 4 feet high, with light-blue flowers. Native to Siberia.

66449. *ASTRAGALUS UTRIGER* Pall.

A low herbaceous perennial about 4 inches high, with yellow flowers. Native to Asia Minor.

66450. *ASTRAGALUS VERUS* Olivier.

A stout-branched hairy spiny shrub, native to western Persia.

66451. *ASTRAGALUS VICIODES* R. Grah.

A herbaceous perennial about 2 feet high, with yellow flowers. Native to the Himalayas.

66452. *BETA VULGARIS* L. Chenopodiaceae.
Chilean beet.

Var. *cicla*.

66453. *CAPNOIDES CHAEROPHYLLUM* (DC.) Kuntze (*Corydalis chaerophylla* DC.). Papaveraceae.

An upright herbaceous perennial, 2 to 4 feet high, with slender golden-yellow flowers.

66422 to 66481—Continued.

66454. *CAPNOIDES LUTEUM* (L.) Gaertn. (*Corydalis lutea* DC.). Papaveraceae.

An erect or spreading annual about 7 inches high, with delicate, pale-green, much-divided leaves and short racemes of pale-yellow flowers. Native to southern Europe.

66455. *CAPNOIDES SEMPERVIRENS* (L.) Borkh. (*Corydalis glauca* Pursh). Papaveraceae.

An annual, very glaucous plant, 1 or 2 feet high, with short terminal clusters of flowers which are pink or purple with yellow tops. Native to rocky places in the northern and western United States.

66456. *CORYDALIS THALICTRIFOLIA* Jameson. Papaveraceae.

A herbaceous perennial, native to China, with a woody rhizome, large rigid spreading leaves, and large racemes of showy yellow flowers.

66457. *CORYDALIS TOMENTOSA* N. E. Brown. Papaveraceae.

A low rock-loving perennial with a rosette of oblong hairy basal leaves and erect racemes of light-yellow flowers. Native to China.

66458. *CHIONODOXA LUCILIAE* Boiss. Liliaceae. *Glory-of-the-snow*.

Var. *gigantea*.

66459. *CRAMBE MARITIMA* L. Brassicaceae. *Common sea kale*.

66460. *CRAMBE PINNATIFIDA* Ait. Brassicaceae. *Sea kale*.

A herbaceous perennial, native to Siberia.

66461. *DEUTZIA LONGIFOLIA VEITCHII* (Veitch) Rehder. Hydrangeaceae.

A shrubby plant about 3 feet high, with roughly hairy leaves 3 inches or more in length, and bright-pink flowers an inch across, borne in terminal corymbs. Native to western China and considered one of the hardiest of the deutzias, although scarcely hardy north of Washington, D. C.

For previous introduction see No. 53693.

66462. *ERODIUM MANESCAYI* Coss. Geraniaceae. *Pyrenees heronbill*.

A perennial plant, belonging to the geranium family, about a foot and a half high, with narrow leaves 6 inches or more in length and rosy purple flowers about 2 inches across. It grows wild in the Pyrenees Mountains.

For previous introduction see No. 63985.

- 66463 to 66466. *IRIS* spp. Iridaceae.

66463. *IRIS BULLEYANA* Dykes. *Hollowstem iris*.

An iris from western China which, as described by Dykes (*The Genus Iris*, p. 30), resembles *Iris clarkei*, having a hollow unbranched stem. The narrow leaves are glossy above and glaucous beneath. The stem, 15 to 18 inches long, bears a single head of one to two flowers. The falls have a greenish-yellow oblong haft, veined and dotted with purple. On the obovate blade the coloring becomes clearer and consists of broken veins and blotches of bright blue-purple on a creamy ground. The extremity is a uniform blue-purple, paler at the edges. The oblanceolate, channeled standards are pale blue-purple with deeper veins and diverge at an angle of about 60°. The keeled, dark-purple styles are held high above the falls.

For previous introduction see No. 53703.

66422 to 66481—Continued.

66464. *IRIS CLARKEI* Baker. *Clarke iris*.

"A curiously local species native to a circumscribed area in the Sikkim and Bhutan region at a height of 6,000 to 11,000 feet in ground that is swampy half the year and hard frozen under snow during most of the remaining months. The narrow leaves, 2 feet long, droop at the tops; the upper surface is polished and shiny, the underside glaucescent. The solid stem is 2 feet long and bears one or two lateral heads. The falls are blue-purple, blotched with white, and are reflexed laterally. The upper part of the haft is marked with yellow. The reddish purple, lanceolate standards are poised almost horizontally. The styles form the highest point of the flower; they are keeled, very convex, and 1½ inches long." (*Dykes, The Genus Iris*, p. 29.)

For previous introduction see No. 53704.

66465. *IRIS FORRESTII* Dykes. *Yunnan iris*.

"A most pleasing iris, like a dwarf *Iris wilsoni*, from which it differs in the less glaucous leaves, clearer yellow, unveined standards. The stem, 12 to 18 inches high, bears a single head of two flowers, although a lateral flowered branch sometimes develops. The short haft bears two central lines and broken lateral veins of brown-purple on a clear yellow ground. The oblong, ovate blade of the falls is often very long and drooping, of a clear, lemon yellow which becomes deeper around the end of the style branches and is there marked with brown-purple veins. The oblanceolate yellow blade of the standards narrows to a deeply channeled haft, yellow, shorter than the falls, and slightly divergent. The broad, short-keeled, deep-yellow styles, often discolored with purple, curve down onto the falls. Native to open mountain pastures on the eastern flank of the Likang Range in northwestern Yunnan, China, at an altitude of 12,000 to 13,000 feet." (*Dykes, The Genus Iris*, p. 27.)

For previous introduction see No. 53705.

66466. *IRIS SETOSA* Pall. *Arctic iris*.

This was originally described as an Asiatic plant, but forms that can not be separated from it are found in North America, according to W. R. Dykes (*Iris*, p. 64). At least half a dozen forms come true from seed. The peculiarity of this iris is that the standards have dwindled until they are only small points about half an inch long, but their disappearance is usually counterbalanced by the increased size of the falls. The color is usually blue, but some shades are so light as to be almost gray.

For previous introduction see No. 57297.

66467. *LEUCOJUM VERNUM* L. Amaryllidaceae. *Spring snowflake*.

A hardy bulbous plant, native to central Europe, with strap-shaped leaves, and a one-flowered scape up to a foot long, bearing a white flower tipped with green.

66468. *LIGUSTRUM DELAVAYANUM* Hariot. Oleaceae.

An evergreen shrub, about 6 feet high, with long graceful branches and dark shining-green oval leaves. The white flowers, borne in downy panicles, and the black fruits make the shrub very ornamental. It is native to the mountainous regions of Yunnan, China, and is probably suited for growing only in the southern United States.

For previous introduction see No. 58613.

66422 to 66481—Continued.

66469. *LILIUM GIGANTEUM* Wall. Liliaceae.
Giant lily.

"This majestic lily is common in the damp thick forests of the Himalayas. The bulb grows close to the surface, in rich black mold, at altitudes of 7,500 to 9,000 feet, where it is covered with snow from November to April. The smooth hollow stems are commonly from 6 to 9 feet high, and are used for musical pipes. The handsome cordate leaves, shining dark green above and paler below, are 10 to 12 inches long on petioles of equal length; both become smaller near the apex. In the large fragrant white flowers, 12 to a raceme, the perianth tube is slightly greenish and the inner surfaces of the segments are tinged with deep purple." (*Curtis's Botanical Magazine*, pl. 4679.)

For previous introduction see No. 49641.

66470. *LILIUM MARTAGON* L. Liliaceae.
Martagon lily.

Var. *dalmaticum*. A Dalmatian form of the Martagon lily which becomes 7 feet high, with five to seven whorls of leaves and 12 to 40 flowers of a deeper purple, almost black.

66471. *MUSCARI ARMENIACUM* Leichtl. Liliaceae.
Grape hyacinth.

A handsome hardy bulbous plant, native to Armenia, with many linear leaves overtopping the racemes of deep-violet flowers. One of the last of the grape hyacinths to flower.

66472. *NICOTIANA RUSTICA* L. Solanaceae.
Aztec tobacco.

For previous introduction see No. 56614.

66473. *ORNITHOGALUM SAUNDERSIAE* Baker. Liliaceae.

A South African bulbous plant with lanceolate leaves up to a foot long and white or yellow flowers borne in a dense raceme on a scape a foot or more high.

For previous introduction see No. 31854.

66474. *PISUM FORMOSUM* Alef. Fabaceae. Pea.

A low herbaceous perennial, with a slender creeping rhizome and rather large pink flowers. Native to Asia Minor.

66475. *PISUM JOMARDI* Schrank. Fabaceae. Pea.

A hardy annual white-flowered pea about 3 feet high, native to Egypt.

66476 to 66480. *RHODODENDRON* spp. Ericaceae.

66476. *RHODODENDRON PONTICUM* L.
Pontic rhododendron.

A shrub 10 feet high, with elliptic or oblong leaves 3 to 5 inches long and many-flowered clusters of purple flowers, spotted brownish within. Native to Asia Minor and Spain.

66477. *RHODODENDRON PSEUDO-YANTHINUM* Hort.

66478. *RHODODENDRON SMIRNOWI* Trautv.

A shrub or small tree, about 20 feet high, with dark-green leaves, grayish hairy beneath, and compact heads of rosy red flowers, each about 3 inches across. Native to the Caucasus.

66479. *RHODODENDRON YANTHINUM* Bur. and Franch.

A western Chinese shrub about 10 feet high, with oval-elliptic leaves and small clusters of purple, sometimes white, funnel-shaped flowers.

66422 to 66481—Continued.

66480. *RHODODENDRON YUNNANENSE* Franch.

A low shrub, 6 feet or less high, with narrowly elliptic, somewhat hairy leaves, and few-flowered clusters of broadly funnel-shaped flowers, white with the upper lobes spotted blood red. Native to Yunnan, China.

66481. *ROSA BANKSIOPSIS* Baker. Rosaceae.
False Banksian rose.

An erect shrubby rose, common in western Hupeh, China, where it is found on mountain slopes at altitudes of from 4,000 to 7,000 feet. The flowers are rose red, and the fruits are coral red.

For previous introduction see No. 50427.

66482 to 66485. *ORYZA SATIVA* L.
Poaceae. Rice.

From Valencia, Spain. Seeds presented by Rafael Font de Mora, director, Estación Arrocería de Sueca. Received March 19, 1926.

Spanish varieties of rice.

66482. *Amonquilli*. 66484. *Bomba*.

66483. *Benlloch*. 66485. *Sueca*.

66486 to 66503.

From Ayr, Scotland. Seeds purchased from McGill & Smith. Received March 22, 1926.

Locally grown seeds.

66486 to 66489. *AVENA SATIVA* L. Poaceae.
Oats.

66486. *Castleton*.

66487. *Dala*.

66488. *Early Fellow*.

66489. *Tam Finlay*. A pure-line stock which we are putting out this year for the first time. (McGill & Smith.)

66490 to 66503. *TRIFOLIUM* spp. Fabaceae.

66490 to 66498. *TRIFOLIUM PRATENSE* L.
Red clover.

66490. *Alpine*.

66491. *Brittany broad-leaved*.

66492. *English broad-leaved early*.

66493. *English late-flowering*.

66494. *Montgomery*.

66495. *Mountain*.

66496. *Norwegian*. We found in our trials that this is possibly the best late-flowering red clover. (McGill & Smith.)

66497. *Swedish late "Hersnap"*.

66498. *Vale of Clwyd late-flowering*.

66499 to 66503. *TRIFOLIUM REPENS* L.
White clover.

66499. *Danish Morso*.

66500. *English*.

66501. *New Zealand*.

66502. *Wild New Zealand*.

66503. *Wild English* × *Thent*.

66504. *COLVILLEA RACEMOSA* Boj.
Caesalpiniaceae.

From Port of Spain, Trinidad, British West Indies. Seeds presented by W. G. Freeman, director of agriculture. Received March 23, 1926.

For previous introduction and description see No. 66151.

66505. CHENOPodium QUINOA Willd.
Chenopodiaceae. Quinoa.

From Lima, Peru. Seeds presented by A. H. Rosenfeld. Received March 24, 1926.

The native inhabitants of the highlands of western South America cultivate this plant for the sake of the seeds, which are creamy white and about three times as large as those of the common North American weed known as "goosefoot" (*Chenopodium album*). In pre-Columbian times this native cereal ranked in importance with the potato and corn. The plant is an abundant yielder and is harvested in early summer. The seeds are washed for about 24 hours in order to remove the bitter flavor, and the washed seeds are boiled and eaten in the same manner as rice.

For previous introduction see No. 55471.

66506. HIBISCUS DIVERSIFOLIUS Jacq.
Malvaceae.

From Wellington, New Zealand. Seeds presented by Llewelyn A. Jones. Received March 25, 1926.

A tall, hairy, rigidly upright, shrubby perennial with prickly stems, variable foliage, and yellow flowers with dark-red centers. Native to tropical Africa and the Pacific islands.

66507 to 66510. CITRUS spp. Rutaceae.

From Algiers, Algeria. Bud sticks presented by Dr. L. Trabut, government botanist. Received March, 1926. Notes by Doctor Trabut.

66507. CITRUS LIMONIA Osbeck. Lemon.

A seedless variety from Algeria.

66508 to 66510. CITRUS SINENSIS (L.) Osbeck. Sweet orange.

66508. Algiers navel. A handsome fruit of good quality.

66509. Matidja navel. A seedling of the Algiers navel.

66510. Zatima. A native variety. The tree is prolific, with several of the branches bearing navel oranges of good quality. Season late.

66511 and 66512. CANNA spp. Cannaceae.

From Haina, Dominican Republic. Seeds presented by Dr. R. Ciferri, director, Estación Agronómica de Haina. Received March 23, 1926. Notes by Doctor Ciferri.

Wild cannas.

66511. CANNA sp.

February 21, 1926. From El Limon, Dominican Republic. Found in sandy places.

66512. CANNA sp.

March 1, 1926. From Sanchez, Dominican Republic, where this canna is particularly abundant.

66513 to 66531.

From Stockholm, Sweden. Seeds presented by Dr. Robert E. Fries, director, botanic garden. Received March 30, 1926.

66513 to 66520. ASTRAGALUS spp. Fabaceae. Milk vetch.

66513. ASTRAGALUS ALPINUS L.

A perennial plant with ascending stems about 8 inches high. Native to the alpine regions of central Europe.

For previous introduction see No. 64617.

66513 to 66531—Continued.

66514. ASTRAGALUS BOETICUS L.

An upright, often stout annual, with compound leaves usually composed of 9 to 15 pairs of narrow leaflets and 6 to 15 pale-yellow flowers in a crowded raceme. Native to the Mediterranean countries.

For previous introduction see No. 64619.

66515. ASTRAGALUS CICER L.

A European astragalus said to be valuable for forage. It is a perennial with prostrate or ascending stems.

For previous introduction see No. 64620.

66516. ASTRAGALUS DANICUS Retz.

A perennial leguminous plant, native to central Europe, with a branching rhizome, ascending stems a foot or less long, and blue or violet flowers.

66517. ASTRAGALUS FALCATUS Lam.

An upright perennial, nearly 2 feet high, with yellowish flowers in an elongated cluster. Native to southern Russia and Asia Minor.

For previous introduction see No. 35237.

66518. ASTRAGALUS FRIGIDUS (L.) A. Gray.

A perennial upright or ascending plant, entirely unbranched or with very few branches. Native to alpine slopes throughout northern Europe and Asia.

For previous introduction see No. 63979.

66519. ASTRAGALUS GALEGIFORMIS L.

A perennial, upright, slightly hairy plant, 1 to 3 feet high, native to southeastern Europe and Asia Minor.

For previous introduction see No. 63980.

66520. ASTRAGALUS GLYCYPHYLLUS L.

For previous introduction and description see No. 66441.

66521 to 66524. CREPIS spp. Cichoriaceae.

Introduced for genetic studies of the genus *Crepis*.

66521. CREPIS BLATTARIOIDES (L.) Vill.

A hairy perennial with large flower heads; native to central and western Europe.

66522. CREPIS RUBRA L.

An annual composite about a foot high with solitary red flowers. Native to southern Europe.

66523. CREPIS SIBIRICA L.

A hairy perennial, 2 to 3 feet high, with a terminal cluster of bright-yellow flowers. Native to Asia Minor, Europe, and the Himalayas.

66524. CREPIS TECTORUM L.

An erect annual, native to dry places in southeastern Europe.

66525. INCARVILLEA COMPACTA Maxim. / *Bigoniaceae.*

A handsome hardy perennial, native to northwestern China, a foot or more high, with fleshy, mostly radical leaves and terminal clusters of purple flowers.

66526. LATHYRUS VERNUS FLACIDUS (Seringe) Arcang. Fabaceae. Spring bitter vetch.

A leguminous perennial 1 to 2 feet high, with limp, very narrow leaves, and blue-violet flowers. Native to central and southern Europe.

For previous introduction see No. 40323.

66513 to 66531—Continued.

66527. *PENTAGONIA PHYSALODES* (L.) Hiern.
(*Nicandra physalodes* Gaertn.). Solanaceae.
Apple of Peru.

A blue-flowered Peruvian annual with the fruit inclosed in a husk as in *Physalis*. The campanulate flowers, an inch or more in diameter, are light blue with a lighter throat; they are produced singly in the axils of the leaves.

For previous introduction see No. 53130.

66528. *NICOTIANA RUSTICA* L. Solanaceae.
Aztec tobacco.

66529. *ONOBRYCHIS CRISTA-GALLI* (L.) Lam.
Fabaceae.

An annual or biennial ascending plant, 8 to 20 inches high, with pinkish purple flowers. Native to dry places in the Mediterranean region.

For previous introduction see No. 33292.

66530. *TRIGONELLA CALLICERAS* Fisch. Fabaceae.

An erect leguminous annual with rather large yellow flowers; native to the Caucasus.

For previous introduction see No. 27294.

66531. *TRIGONELLA CAERULEA* (L.) Seringe.
Fabaceae.

An annual, upright plant, usually from 1 to 2 feet high, with bright-blue flowers having the same odor as the fenugreek (*Trigonella foenum-graecum*). Native to the Mediterranean region.

For previous introduction see No. 64646.

66532 to 66615.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received March 23, 1926.

66532 to 66535. *ALLIUM* spp. Liliaceae. Onion.

66532. *ALLIUM KARATAVIENSE* Regel.

A herbaceous plant with very broad, ovate-oblong flat leaves and pink flowers borne in dense, convex umbels. The scapes are about 6 inches high. Native to Turkistan.

For previous introduction see No. 60228.

66533. *ALLIUM OSTROWSKIANUM* Regel.

This species, native to Turkestan, has rose-colored flowers produced freely in many-flowered umbels on scapes 6 inches high.

For previous introduction see No. 58880.

66534. *ALLIUM SIKKIMENSE* Baker.

A compact, neat little perennial 6 inches high or more with grasslike leaves and loose umbels of deep-blue flowers. Native to Sikkim, India.

For previous introduction see No. 58884.

66535. *ALLIUM YUNNANENSE* Diels.

A caespitose onion, native to southwestern China, with linear leaves about 6 inches long and pink or purplish flowers on a scape 4 to 16 inches long.

66536 to 66541. *ASTRAGALUS* spp. Fabaceae.
Milk vetch.

66536. *ASTRAGALUS ALOPECUROIDES* L.
Foxtail milk vetch.

An erect pubescent Siberian species 2 to 5 feet high with narrowly oval leaves and yellow flowers produced in thick oblong spikes.

For previous introduction see No. 58692.

66532 to 66615—Continued.

66537. *ASTRAGALUS ARISTATUS* L'Herit.

An alpine plant, native to southern Europe, where on dry, barren slopes it forms mats of spiny branches in which appear the little yellow flower heads among the minute leaves.

66538. *ASTRAGALUS BOETICUS* L.

An upright, often stout annual, with compound leaves usually composed of 9 to 15 pairs of very narrow leaflets, and 6 to 15 pale-yellow flowers in a crowded raceme. Native to the Mediterranean countries.

For previous introduction see No. 58693.

66539. *ASTRAGALUS CHINENSIS* L. f.

An erect, herbaceous plant, native to China, with smooth slender stems, elliptic-obtuse leaflets, and pendulous, few-flowered racemes.

For previous introduction see No. 59352.

66540. *ASTRAGALUS HAMOSUS* L.

An annual gray-green hairy plant, with prostrate or ascending stems 8 inches to a foot in length. Native to sunny places in the Mediterranean countries.

For previous introduction see No. 63982.

66541. *ASTRAGALUS ZINGERI* Korsh.

A somewhat shrubby perennial, with an erect or ascending stem 6 to 20 inches high, and spikelike clusters of white flowers. Native to rocky places on the Volga River.

66542 to 66544. *BERBERIS* spp. Berberidaceae.
Barberry.

66542. *BERBERIS ARISTATA* DC.

A handsome shrub of elegant, spreading habit, becoming at times 10 feet high. The spine-tipped leaves are often whitish beneath, and the numerous flowers are bright golden yellow. The spindle-shaped berries, about half an inch in length, are red, covered with a blue-white bloom. This is said to be one of the most vigorous of the Himalayan barberries; it is hardy at the Arnold Arboretum, Jamaica Plain, Mass.

For previous introduction see No. 60378.

66543. *BERBERIS TISCHLERI* C. Schneid.

A shrub from western China, 7 to 14 feet high, with spines in threes, papery spine-tipped leaves up to 2 inches in length, and yellow flowers in dense racemes. The somewhat pruinose egg-shaped red fruits ripen in October.

For previous introduction see No. 58123.

66544. *BERBERIS YUNNANENSIS* Franch.

A deciduous shrub, 3 to 6 feet high, with dense rounded spines and nearly circular leaves. The flowers are pale yellow, and the berries are bright red. Native to western China.

For previous introduction see No. 43826.

66545. *CLEMATIS REHDERIANA* Craib. Ranunculaceae. Clematis.

A vigorous woody climber, native to southwestern China, which produces quantities of small, nodding, fragrant, primrose-yellow flowers in fall.

For previous introduction see No. 49937.

66546. *CORIARIA JAPONICA* A. Gray. Coriariaceae. Japanese coriaria.

A Japanese shrub, 2 or 3 feet high, or occasionally more, with opposite, oval leaves and racemes of bright-red berrylike fruits which become violet black when thoroughly ripe.

66532 to 66615—Continued.

66547 to 66555. *CROCUS* spp. Iridaceae.66547. *CROCUS ASTURICUS* Herbert.

A Spanish crocus with flowers about 1½ inches long; the segments are lilac, the anthers bright yellow, and the style orange.

66548. *CROCUS ETRUSCUS* Parl.

The leaves of this Italian crocus, about three in number, are very narrow; the perianth segments are about an inch long, lilac, or the outer ones cream colored, and the throat yellow; the anthers and style are orange.

66549. *CROCUS IMPERATI* Tenore.

An Italian species with four to six very narrow leaves, exceeding the flowers, and lilac or white flowers with the outer segments buff and three striped, and yellow anthers.

66550. *CROCUS LAEVIGATUS* Bory and Chaub.

The leaves of this crocus, which is native to Greece, are three or four in a tuft, as high as the flowers and very narrow with reflexed margins and a white band. The flowers are pure white or with three to five lilac stripes on the outer segments, and the throat is yellow.

66551. *CROCUS MEDIUS* Balb.

A lilac-flowered crocus, native to France and Italy, with narrow leaves a foot or more high.

66552. *CROCUS SALZMANNI* J. Gay.

A Moroccan crocus, with about six very narrow leaves, not prominent at flowering time. The lilac flowers have yellowish anthers and throat.

66553. *CROCUS SPECIOSUS* Bieb.

The leaves of this crocus, which is native to Asia Minor, are usually three in number. They are very narrow, developing after the flowers and becoming a foot long. The flowers are lilac, with darker featherings, and the large anthers are bright orange.

66554. *CROCUS TOMMASINIANUS* Herbert.

A crocus native to Serbia and Dalmatia; the narrow leaves appear with the flowers, which are pale bluish red with pale orange anthers.

66555. *CROCUS ZONATUS* J. Gay.

The narrow-linear leaves of this Asia Minor species appear after the flowers. The rosy lilac flowers, 2 to 3 inches long, are purple veined and orange spotted within, and the throat is yellow and pubescent. The anthers are white.

66556 to 66559. *CYTISUS* spp. Fabaceae.

Broom.

66556. *CYTISUS GRANDIFLORUS* (Brot.) DC.

A spineless leguminous shrub with long rodlike branches, trifoliolate leaves, and large solitary yellow flowers. Native to Spain.

66557. *CYTISUS BIFLORUS* L'Herit.

A leguminous shrub 3 feet high, with slender branches and leaflets with silky lower surfaces. The yellow flowers are single or in pairs. Native to Europe and western Asia.

66558. *CYTISUS SESSILIFOLIUS* L.

Sessile broom.

A leguminous shrub, native to Greece, with trifoliolate leaves and erect racemes of yellow flowers.

66532 to 66615—Continued.

66559. *CYTISUS SUPINUS* L.

Big-flower broom.

An erect shrub about 3 feet high, native to central and southern Europe. The oblong-oval leaflets, about an inch long, are hairy beneath, and the yellow flowers are nearly an inch long.

66560. *DEUTZIA LONGIFOLIA* VEITCHII (Veitch) Rehder. Hydrangeaceae. Long-leaf deutzia.

This deutzia, from Yunnan, China, which bears its large flowers in dense many-flowered corymbs, is one of the handsomest of the genus, but it has proved hardy only under protection at the Arnold Arboretum, Jamaica Plain, Mass.

For previous introduction see No. 53698.

66561 to 66565. *ERODIUM* spp. Geraniaceae.

Heronbill.

66561. *ERODIUM CARVIFOLIUM* Boiss. and Reut.

An attractive herbaceous perennial, native to Spain, with radical leaves about 6 inches long and purplish flowers on a scape about a foot long.

66562. *ERODIUM TRIFOLIUM* Cav. (*E. hymenodes* L'Herit.).

A half-hardy herbaceous perennial about 9 inches high, with pink flowers. Native to Algeria.

66563. *ERODIUM GLANDULOSUM* (Cav.) Willd. (*E. macradenum* L'Herit.).

A stemless herbaceous perennial, native to the Pyrenees Mountains, with long stout roots, hairy leaves 2 to 6 inches long, and light-purple flowers three-fourths of an inch across.

66564. *ERODIUM MANESCAVI* Coss.

Pyrenees heronbill.

A herbaceous perennial plant, belonging to the geranium family, about a foot and a half high, with narrow leaves 6 inches or more in length, and rosy purple flowers about 2 inches across. It grows wild in the Pyrenees Mountains.

For previous introduction see No. 63985.

66565. *ERODIUM PETRAEUM* (Gouan) Willd.

A herbaceous perennial, native to Asia Minor, with a vertical rhizome, numerous crowded basal leaves and violet or pink flowers.

66566. *ERODIUM SUPRACANUM* L'Herit.

A stemless herbaceous perennial with a vertical rhizome, numerous densely hairy leaves, and white, red-veined flowers. Native to the Pyrenees Mountains.

66567. *EUONYMUS MAACKII* Rupr. Celastraceae.

A large shrub or small tree, with narrowly oval leaves about 3 inches long, and small clusters of pink, four-lobed fruits with orange-red arils. Native to northeastern Asia.

66568. *EUONYMUS YEDOENSIS* Koehne. Celastraceae.

A large handsome Japanese shrub which bears dense clusters of pink, deeply four-lobed fruits with orange arils.

For previous introduction see No. 61982.

66569. *EVODIA HUPEHENSIS* Dode. Rutaceae.

A very common tree in the woodlands of western Hupeh, China, according to E. H. Wilson (*Plantae Wilsonianae*, vol. 2, pt. 1), where it grows to a height of 20 to 40 feet. It has smooth gray bark, spreading branches, and white flowers in large flat corymbs.

For previous introduction see No. 63357.

66532 to 66615—Continued.

66570. *GENISTA PILOSA* L. Fabaceae.
Silky-leaf broom.

A dwarf procumbent or ascending leguminous shrub with dark-green leaves, hairy beneath, and axillary yellow flowers. Native to Europe and western Asia.

66571. *HELIANTHEMUM FORMOSUM* (Curt.) Dunal. Cistaceae. Sun rose.

An upright spreading hairy shrub, about 3 feet high, with oval leaves, white-hairy when young, and small clusters of flowers which are yellow, spotted purple at the base, and 2 inches across. Native to Spain.

For previous introduction see No. 40181.

66572. *HEMEROCALLIS CITRINA* Baroni. Liliaceae. Citron day lily.

A tall growing, very fragrant bulbous plant with lemon-yellow flowers; native to China.

66573. *HEMEROCALLIS NANA* Forrest and Smith. Liliaceae. Day lily.

A perennial bulbous plant, native to south-west China, which grows in several-headed clumps 4 to 10 inches high. The green linear leaves are about 6 inches long, and the flowers, orange flushed with red, are borne singly or in pairs on a stem about 5 inches long.

66574. *HYACINTHUS AMETHYSTINUS* L. Liliaceae. Hyacinth.

A slender graceful Spanish hyacinth with short racemes of light-blue flowers 6 inches or less high.

- 66575 to 66578. *IRIS* spp. Iridaceae.

66575. *IRIS CHRYSOPHAGES* Dykes. Goldvein iris.

One of the handsomest of the Siberian irises; the velvety dark-purple flowers are brightened by golden reticulations at the throat.

66576. *IRIS FOETIDISSIMA* L. Gladwin iris.

An iris, native to the Mediterranean countries, with leaves a foot long, and bright-blue flowers borne on a stem about 2 feet high.

For previous introduction see No. 63410.

66577. *IRIS FORRESTII* Dykes. Yunnan iris.

For previous introduction and description see No. 63410.

66578. *IRIS MILESII* Baker. Himalayan iris.

A large Himalayan iris, with seven or eight leaves, 2 to 3 feet long, on the stem; the latter is branched and bears about four heads of bright-lilac flowers.

66579. *LATHYRUS VENOSUS* Muhl. Fabaceae.

A stout perennial, 2 to 3 feet high, with purple flowers; native to the eastern United States.

66580. *LIGUSTRUM INSULENSE* Decaisne (*L. insulare* Decaisne). Oleaceae. Privet.

A shrub, closely related to the common privet (*Ligustrum vulgare*), becoming 6 feet high, with yellowish green, often pendulous leaves and rather large flower panicles. Country of origin unknown.

66581. *LIGUSTRUM YUNNANENSE* L. Henry. Oleaceae. Privet.

A shrub 12 feet or less in height, with thick, narrowly oblong leaves 2 to 5 inches long. Native to Yunnan, China.

66532 to 66615—Continued.

66582. *LONICERA CHRYSANTHA* Turcz. Caprifoliaceae. Coralline honeysuckle.

A shrubby honeysuckle from Japan, up to 12 feet high, with upright stems, somewhat rhombic leaves 2 to 5 inches long, and yellowish white flowers three-fourths of an inch long. It is particularly handsome in autumn with its bright coral-red berries.

For previous introduction see No. 42315.

66583. *LONICERA TRICHOSANTHA* Bur. and Franch. Caprifoliaceae.

Slender honeysuckle.

A robust deciduous shrub 8 feet high, native to Szechwan, China. The whole plant has a rounded, dense, leafy habit and a pale grayish aspect. The dull gray-green leaves are paler beneath, and the pale-yellow flowers fade to a deeper shade. The berries are red.

For previous introduction see No. 53716.

66584. *MAGNOLIA PARVIFLORA* Sieb. and Zucc. Magnoliaceae. Oyama magnolia.

A small Japanese magnolia with oblong leaves 4 to 6 inches long and fragrant white cup-shaped flowers 3 to 4 inches across, with large pink sepals and crimson stamens.

- 66585 to 66589. *MUSCARI* spp. Liliaceae. Grape hyacinth.

66585. *MUSCARI ARGAEI* Hort.

Said to be an extra good variety resembling *M. neglectum* (No. 66589).

66586. *MUSCARI ARMENIACUM* Leichtl.

For previous introduction and description see No. 66471.

66587. *MUSCARI COMPACTUM* (Jord. and Four.) Baker.

A species of uncertain status, said to have flowers which are nearly black with whitish teeth.

66588. *MUSCARI MAWEANUM* Leichtl.

A hardy bulbous plant about 6 inches high, with pale-blue and white flowers. Native to Armenia.

66589. *MUSCARI NEGLECTUM* Guss.

A low bulbous plant, native to the Mediterranean countries, with numerous strap-shaped leaves up to a foot in length and fragrant dark-blue flowers.

66590. *NARCISSUS BULBOCODIUM* L. Amaryllidaceae. Petticoat daffodil.

A small slender plant with very slender leaves and one flower ascending or horizontal, usually bright yellow throughout. Native to southern France and Morocco.

66591. *NICOTIANA RUSTICA* L. Solanaceae. Aztec tobacco.

66592. *OSMANTHUS DELAVAYI* Baill. Oleaceae. Delavay osmanthus.

A beautiful evergreen shrub from southwestern China, with dense axillary clusters of pure white flowers. The dark-green, ovate leaves are an inch long and have serrate margins.

For previous introduction see No. 52685.

- 66593 to 66598. *PAEONIA* spp. Ranunculaceae. Peony.

66532 to 66615—Continued.

66593. *PAEONIA ANOMALA* L.

A strong-growing wild peony found on well-drained hill slopes, mostly between scrub. Flowers large and of a pale-rose color; foliage somewhat coarse. (Note by Frank N. Meyer under No. 32240.)

66594. *PAEONIA ARIETINA* Anders.

A European peony about 3 feet high, with solitary large, dark-red flowers.

66595. *PAEONIA HIRSUTA* Mill.

A peony of unknown origin, with large double red flowers. The lobes of the leaves are narrowly spear shaped.

66596. *PAEONIA LUTEA* Delavay.

Golden peony.

A shrubby Chinese peony, with a short woody stem 1 or 2 feet high and deep-green, leathery, three-parted leaves, white beneath, and about a foot in length. The golden yellow, single or slightly double flowers are $2\frac{1}{2}$ inches across.

For previous introduction see No. 62758.

66597. *PAEONIA PARADOXA* Anders.

One of the dwarfest of the peonies, with the leaves in a dense tuft and purple-red flowers. Native to southern Europe.

66598. *PAEONIA PEREGRINA* Mill.

A European peony about 2 feet high, with deep-green leaves, paler beneath, and dark-crimson flowers.

66599. *PETTERIA RAMENTACEA* (Sieber) Presl.
Fabaceae.

An upright leguminous shrub, 6 feet or less high, with trifoliate leaves and dense upright racemes of fragrant yellow flowers. Native to southern Europe.

66600. *PRUNUS SERULATA* Lindl. Amygdalaceae.
Hitoze cherry.

Var. *Lannesiana*. A variety with the young foliage green or slightly reddish. The leaf margins are dentate, with the teeth long aristate.

66601. *PRUNUS MAXIMOWICZII* Rupr. Amygdalaceae.
Korean cherry.

For previous introduction and description see No. 66397.

66602. *RHAMNUS SAXATILIS* Jacq. Rhamnaceae.
Buckthorn.

A low, dense, very spiny shrub about 3 feet high, native to mountainous regions in central Europe and western Asia.

66603. *RHODODENDRON YANTHINUM* Bur. and Franch. Ericaceae.
Rhododendron.

For previous introduction and description see No. 66479.

66604 to 66607. *RUBUS* spp. Rosaceae.66604. *RUBUS BIFLORUS* Buch.-Ham.

A rambling shrub, with large leaves, woolly beneath, and subacid yellow berries about the size of a thimble. Native to the Himalayas.

For previous introduction see No. 58967.

66605. *RUBUS FLOSCULOSUS* Focke.

A deciduous shrub which, as described by E. H. Wilson (A Naturalist in Western China, vol. 2, p. 31), is up to 12 feet in height with stout erect stems arching at the much-branched top. The pinnate leaves, 4 to 7 inches long, are smooth above and covered beneath with a close white felt. The small pink flowers, in narrow racemes 2 to 4 inches

66532 to 66615—Continued.

long, are succeeded by small, very dark-red or black edible fruits of agreeable flavor. Native to central and western China.

For previous introduction see No. 52943.

66606. *RUBUS INOERTUS* Focke.

A climbing shrub with stout stems and ovate green leaflets. The short-pedicelled flowers are either axillary or clustered at the tips of the branches. Native to south and central China at altitudes of 2,000 meters.

For previous introduction see No. 52945.

66607. *RUBUS LASIOSTYLUS* Focke.

Woolly raspberry.

A wild raspberry from western China, with bluish white bristly stems, small, pinnate leaves, silvery beneath, magenta flowers, and rose-colored woolly fruits which are sweet but said to be of little use for eating.

For previous introduction see No. 58896.

66608. *STYRAX WILSONII* Rehder. Styracaceae.
Chinese snow bell.

A very attractive, compact little shrub 6 feet or less in height, which starts to bear its small clusters of white flowers when about 2 years old. The oval leaves are white tomentose beneath. The shrub is native to the mountains of western China and is hardy as far north as the Arnold Arboretum, Jamaica Plain, Mass.

For previous introduction see No. 62287.

66609 to 66613. *VIBURNUM* spp. Caprifoliaceae.66609. *VIBURNUM BETULIFOLIUM* Batal.

An upright shrub, ultimately about 10 feet high, with coarsely toothed oval leaves, white flowers in cymes 2 to 4 inches wide, and red fruits. Native to central and western China.

For previous introduction see No. 35199.

66610. *VIBURNUM BREVIPES* Rehder.

An erect shrub, 6 to 10 feet high, native to western China, with membranous oblong-oval leaves and ovoid red berries.

66611. *VIBURNUM BUREJATICUM* Regel and Herd. Manchurian viburnum.

A northern Chinese species allied to the wayfaring tree (*Viburnum lantana*); the flowers are produced in dense cymes 2 inches across, and the fruits are ovoid and bluish black.

For previous introduction see No. 58807.

66612. *VIBURNUM DAVIDI* Franch.

One of the handsomest small shrubs I have ever seen. The leaves have a grace of form, a texture, and color which is remarkable, and the bright-blue berries add a touch of style to the plant. This shrub, an introduction from Szechwan, China, made in 1910, grows well in the shade and requires plenty of moisture. (Note by David Fairchild under No. 62853.)

66613. *VIBURNUM HENYI* Hemsl.

A shrubby, evergreen viburnum 10 feet or more in height, with dark shining green, oblong leaves and stiff pyramidal panicles of white flowers. The oval fruits, one-third of an inch long, are at first red, becoming black, and give the shrub a decidedly ornamental appearance in autumn. Native to central China and hardy as far north as Massachusetts.

For previous introduction see No. 63686.

66614. (Undetermined.)

66532 to 66615—Continued.

66615. *VICIA PYRENAICA* Pourr. Fabaceae.
Vetch.

A perennial prostrate or ascending vetch, native to southwestern France, with stems up to a foot in length and large solitary purplish flowers.

66616 to 66622.

From Cluj, Rumania. Seeds presented by Dr. Al. Borza, director, botanic garden of the University of Cluj. Received March 27, 1926.

66616 to 66619. *CREPIS* spp. Cichoriaceae.

Introduced for genetic studies of the genus *Crepis*.

66616. *CREPIS BIENNIS* L.

A biennial composite with pinnately hastate leaves, native to southern Europe.

66617. *CREPIS RUBRA* L.

An annual red-flowered plant, native to southern Europe.

66618. *CREPIS SETOSA* Hall. f.

An erect annual herb, much branched, native to Asia Minor.

66619. *CREPIS TARAXACIFOLIA* Thuill.

A biennial, hairy, spreading composite with yellow flowers; native to France.

66620. *GLADIOLUS GANDAVENSIS* Van Houtte. Iridaceae.

A late-flowering hybrid gladiolus (*G. psittacinus* × *cardinalis*); the flowers, in long spikes, are red and reddish yellow, variously streaked and penciled.

66621. *NICOTIANA RUSTICA* L. Solanaceae.
Aztec tobacco.

66622. *TRIFOLIUM PRATENSE* L. Fabaceae.
Red clover.

66623 to 66646.

From Nancy, France. Seeds presented by Prof. Edmond Gain, director, botanic garden, Place Carnot. Received March 31, 1926.

66623 to 66625. *AGROSTIS* spp. Poaceae.

66623. *AGROSTIS PALUSTRIS* Huds. Redtop.

66624. *AGROSTIS MARITIMA* Lam. Bent grass.

66625. *AGROSTIS CAPILLARIS* L.
Rhode Island bent.

66626 to 66628. *CREPIS* spp. Cichoriaceae.

Introduced for genetic studies of the genus *Crepis*.

66626. *CREPIS BIENNIS* L.

For previous introduction and description see No. 66616.

66627. *CREPIS MONTANA* (Jacq.) Reichenb.

An alpine composite with a large head of yellow flowers, native to Switzerland.

66628. *CREPIS SIBIRICA* L.

A perennial composite, 2 to 3 feet high, covered with short rough hairs, bearing a terminal cluster of bright-yellow flowers. Native to Asia Minor and the Himalayas.

66629 to 66632. *LATHYRUS* spp. Fabaceae.

66629. *LATHYRUS CIRRHOSUS* Seringe.

A climbing annual 16 to 40 inches high, with a woody, straight-winged stem, leaves composed of two to three pairs of elliptic or oblong leaflets, and purple or pinkish

66623 to 66646—Continued.

flowers in three to eight flowered loose racemes. Native to the barren slopes of the Pyrenees Mountains.

For previous introduction see No. 44692.

66630. *LATHYRUS LATIFOLIUS* L.
Perennial pea.

For previous introduction see No. 42076.

66631. *LATHYRUS OCHRUS* (L.) DC.

A prostrate or ascending annual up to 2 feet long, with winged stems and yellow flowers. Native to the Mediterranean countries.

For previous introduction see No. 29941.

66632. *LATHYRUS SATIVUS* L. Bitter vetch.

An annual ascending or prostrate leguminous plant with whitish flowers. Native to the Mediterranean countries.

66633. *LUPINUS COCCINEUS* Hort. Fabaceae.
Lupine.

66634. *MEDICAGO TURBINATA OLIVAEFORMIS* (Guss.) Aschers. and Graebn. Fabaceae.

A leguminous annual, with prostrate stems about 2 feet long. Native to the Mediterranean countries.

66635. *MEDICAGO SATIVA VARIA* (Mart.) Urban. Fabaceae.

A hardy herbaceous European perennial.

66636. *MELILOTUS ALBA* Desr. Fabaceae.
White sweet clover.

66637. *MELILOTUS SPECIOSA* Durieu. Fabaceae.

An erect leguminous annual, native to northern Africa.

66638. *NICOTIANA TABACUM* L. Solanaceae.
Tobacco.

Var. *macrophylla*. A large-leaved form.

66639. *NICOTIANA RUSTICA* L. Solanaceae.
Aztec tobacco.

66640 to 66643. *TRIFOLIUM* spp. Fabaceae.
Clover.

66640. *TRIFOLIUM ALPESTRE* L.

A perennial clover, with long underground roots, found over almost all the mountainous parts of Europe, especially in calcareous soils, and ascending to a height of 16,000 feet. The narrowly oval leaflets are velvety hairy, and the flowers are pinkish purple.

For previous introduction see No. 56671.

66641. *TRIFOLIUM MEDIUM* Huds.
Mammoth clover.

A perennial clover with a wide-creeping rhizome, upright stems over a foot high, and bright-purple flowers. Native to southern Europe.

For previous introduction see No. 57855.

66642. *TRIFOLIUM MONTANUM* L.

A perennial white-flowered clover, native to southern Europe, with a woody rhizome giving rise to one or more clumps of upright stems up to 2 feet high.

For previous introduction see No. 35279.

66643. *TRIFOLIUM RUBENS* L.

A perennial clover with widely creeping rhizomes and upright glabrous stems 1 to 2 feet high. Native to rocky places and thickets in the Mediterranean region.

For previous introduction see No. 63994.

66623 to 66646—Continued.

66644. *TRIGONELLA CAERULEA* (L.) Seringe.
Fabaceae.

An upright annual, 2 feet or less high, with bright-blue flowers. Native to southeastern Europe.

For previous introduction see No. 33297.

66645. *TRIGONELLA STRIATA* L. f. Fabaceae.

An annual yellow-flowered leguminous plant, native to southeastern Europe and western Asia.

66646. *VICIA SATIVA* L. Fabaceae.

Common vetch.

66647. *LECYTHIS PISONIS* Cambess. Lecythidaceae.

From Rio de Janeiro, Brazil. Seeds presented by Amazonas Torres, botanic garden. Received March 27, 1926.

A large Brazilian tree which, as described by St. Hilaire (Flora Brasiliæ Meridionalis, vol. 2, p. 377), has broadly ovate glossy green leaves 3 inches long and ellipsoidal woody fruits about the size of a child's head. These fruits open by a circular lid, and the edible seeds, the size of a cherry, have white flesh of good flavor.

66648 to 66660.

From Ceylon. Seeds and cuttings obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 26, 1926.

66648. *ALBIZZIA ODORATISSIMA* (L. f.) Benth.
Mimosaceae.

No. 348. From the American Mission compound, Tellippalai, near Jaffna, February 6, 1926. A large shade tree, spreading in habit, with pure white sweet-scented flowers, which is called suriya mara by the Singhalese.

66649. *BORASSUS FLABELLIFER* L. Phoeniceae.
Palmyra palm.

No. 350. Jaffna. February 6, 1926. The famous Palmyra palm of India and Ceylon which in the northern part of this island takes the place of the coconut palm. Though a slow grower, it is a very handsome palm when old. Inasmuch as it grows in the dry coastal regions of Ceylon, it is apparently able to withstand any amount of lime, and as it is said to have been used successfully as a binder for sand dunes, it should prove of real value in the calcareous soils of southern Florida. In the number of uses to which it is put here it rivals the coconut. A delicate sugar is made from the sap which flows in abundance from its inflorescence when cut. The seeds are germinated and the young subterranean hypocotyl is used as a vegetable. The leaves are used in many different ways. The fruit, half the size of a coconut, is very attractive in appearance and when ripe exhales a delicate fragrance. The hull is eaten by the Tamils of Ceylon.

66650. *CAESALPINIA CORIARIA* (Jacq.) Willd.
Caesalpinaceae. Divi-divi.

No. 407. February 7, 1926. Seeds from a very beautiful tree growing in deep sandy soil in Regency Park, Jaffna. This tree, bearing sweet-scented flowers, may prove a success as a tannin-producing plant.

For previous introduction see No. 42271.

66651. *CARICA CANDAMARCENSIS* Hook. f. Papayaceae.

No. 401. From the Hakgala Botanic Gardens at an altitude of 6,000 feet. February 8, 1926. The mountain papaya of Ceylon. The fruits of this Ecuadorian species are entirely different from those of *Carica papaya*, being small and acid flavored and useful only for jam and preserves.

For previous introduction see No. 51389.

66648 to 66660—Continued.

66652. *CASUARINA MONTANA* Leschen. Casuarinaceae.

No. 408. From the Hakgala Botanic Gardens. January 28, 1926. A beautiful species with drooping branches growing in the cool rainy region of Hakgala.

66653. *CISSUS QUADRANGULA* L. (*Vitis quadrangularis* Wall.). Vitaceae.

No. 406. Cuttings collected on the north coast of Ceylon near Jaffna, February 6, 1926. A succulent plant with square fleshy stems of most interesting structure.

66654. *CYAMOPSIS TETRAGONOLOBA* (L.) Taub. (*C. psoraloides* DC.). Fabaceae. Guar.

No. 412. Jaffna Mission School, Batticotta. February 6, 1926. The guar or "cluster bean," whose young pods are eaten in curries, is commonly cultivated in India and occasionally in Ceylon. The plant may be useful as green manure.

For previous introduction see No. 57833.

66655. *EHRETIA MICROPHYLLA* Lam. Boraginaceae.

No. 344. From roadside thickets at Point Pedro, Jaffna. February 6, 1926. A dark-green glossy-leaved plant which makes an attractive shrub when grown on salty land near the seashore; suitable for hedges. The yellow fruits, about the size of a pea, are said to be edible.

For previous introduction see No. 43760.

66656. *HYPHAENE THEBAICA* (L.) Mart. Phoenicaceae. Doum palm.

No. 349. From Residency Park, Jaffna. February 6, 1926. A palm 25 feet high, distributed from Upper Egypt to central Africa. The stems of old trees are sometimes forked three or four times. The beautiful yellowish brown fruits are borne in long clusters of 100 to 200. In Upper Egypt the poorer classes eat the fibrous mealy fruit husk, which tastes much like gingerbread but is rather hard and husky. The hard tough wood is used for domestic utensils.

For previous introduction see No. 53848.

66657. *INDIGOFERA ENDECAPHYLLA* Jacq. Fabaceae.

No. 391. From the agricultural experiment station in the district of Kandy, January 23, 1926.

For previous introduction and description see No. 66253.

66658. *PTYCHOSPERMA* sp. Phoenicaceae. Palm.

No. 421. February 12, 1926. A pinnate-leaved palm with a smooth trunk.

66659. *SCHLEICHERA TRIJUGA* Willd. Sapindaceae.

No. 343. A very handsome sapindaceous tree, splendid for shade, growing in front of the Residency House at Jaffna. February 5, 1926. It resembles a European evergreen oak, but the small fruits are edible and slightly acid.

For previous introduction see No. 25848.

66660. *THUNBERGIA COCCINEA* Wall. Acanthaceae.

No. 387. From the Hakgala Botanic Garden. January 28, 1926. A beautiful red-flowered climber which is a very fine ornamental.

66661. *ANNONA* sp. Annonaceae.

From Homestead, Fla. Seeds presented by H. W. Johnston, through R. A. Young, Bureau of Plant Industry, Gainesville, Fla. Received March 30, 1926.

One fruit, picked July 11, 1925, weighed nearly one-half pound, was 3 inches long and thick, and of somewhat irregular shape. The flesh was pleasantly acid sweet, of fairly good flavor, but very granular, and contained about 100 seeds. (Young.)

66662 to 66673. LILIUM spp. Liliaceae. Lily.

From London, England. Bulbs purchased from Barr & Sons, Covent Garden. Received March 29, 1926. Notes from Barr & Sons' catalogue.

66662 to 66666. LILIUM DAURICUM Ker. Candlestick lily.

For previous introduction see No. 63827.

66662. Var. fulgidum. A very distinct variety, 1 foot high, with handsome flowers of a rich dark crimson, shaded with deep orange and freely spotted.

66663. Var. incomparabile. A handsome showy variety, 2 feet high, which is an intense rich crimson-scarlet and is freely spotted.

66664. Var. Leonard Joerg. A very handsome showy lily, 20 to 23 inches high, bearing umbels of large flowers of good form, with broad petals. The flowers are glowing orange-scarlet, shading down to golden yellow, and freely spotted with dark crimson.

66665. Var. Sappho. A variety, 2 feet high, which is scarlet, shading to orange, and moderately spotted.

66666. Var. Splendidum. A fine showy variety of sturdy growth, 2 to 2½ feet high, producing a head of flowers, up to 12 in number, with slightly reflexed petals which are orange-scarlet, shading to glowing crimson-vermilion.

66667 to 66673. LILIUM ELEGANS Thunb. Japanese lily.

66667. Var. alutaceum, Prince of Orange. A showy dwarf lily, 1 foot high, with clear apricot-orange flowers which are spotted black. This is a valuable variety for flower beds, rock gardens, and massing in front borders.

66668. Var. bicolor. A variety, 1½ feet high, with beautiful large flowers which are apricot-orange flamed scarlet.

66669. Var. marmoratum aureum. A variety, 2½ feet high, producing broad open flowers which are golden-apricot, densely spotted with purple.

66670. Orange Queen. A handsome, strong robust grower, 15 to 18 inches high, which is very decorative in either pots or borders. During the midsummer it produces large orange-colored flowers spotted with black.

66671. Var. sanguineum. A variety, 1½ feet high, with rich-crimson flowers finely spotted with dark crimson.

66672. Star of Heusden. A very free-flowering variety 1½ feet high. The large beautiful flowers are soft chrome yellow with a dark-orange stripe on each petal and finely spotted.

66673. Var. venustum. A grand showy lily, 1½ feet high, which is late flowering. The flowers are glowing reddish orange.

66674. MUSCARI sp. Liliaceae. Grape hyacinth.

From Morocco. Bulbs collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received September 8, 1925. Numbered January, 1926.

No. 102. From Ito Plateau, near Azrou. June 17, 1925. A species peculiar to the Middle Atlas Mountains, at an altitude of 1,300 meters. A spring-blooming bulbous plant with blue or white flowers in racemes or spikes.

For introduction of seeds see No. 64957.

66675. PERSEA AMERICANA Mill. (P. gratissima Gaertn. f.). Lauraceae. Avocado.

Fruits from a seedling of No. 19080, *Collins*, grown at the United States Plant Introduction Garden, Miami, Fla., under the Garden number 1891. Received at Washington, D. C., January 21, 1926. Numbered March, 1926.

Collinami. A large pear-shaped fruit which is light green with light-colored dots over most of the surface. The skin, comparatively smooth, is medium thick and pliable, separating easily from the flesh, which is soft, buttery, and of excellent texture and flavor. The outer seed coat separates easily from the seed, but tends to cling to the flesh. The tree is a very upright grower, similar to the parent tree. The leaves are large and rather glossy.

66676. MANGIFERA INDICA L. Anacardiaceae. Mango.

From Ceylon, India. Scions presented through David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 26, 1926.

No. 347. February 6, 1926. Scions from a tree planted by Miss Eliza Agnew on the grounds of the Uduvil Girls' School, Chunnakan, Ceylon, and presented by Miss G. M. Vining. This mango is said to be of good quality, with a small seed, little fiber, and a scarlet blush which makes it very attractive.

66677 and 66678. GOSSYPIMUM NANKING Meyn. Malvaceae. Cotton.

From French Indo China. Seeds received March 23, 1926.

66677. No. 1. A variety which grows wild.

66678. No. 2. A variety cultivated in the villages.

66679. CYNOMETRA CAULIFLORA L. Caesalpiniaceae.

From Ceylon. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 26, 1926.

No. 392. Obtained from the Veyangoda Farm, between Colombo and Kandy, February 12, 1926.

For previous introduction and description see No. 65781.

66680 to 66693. BERBERIS spp. Berberidaceae. Barberry.

From Elstree, Herts, England. Plants presented by Edwin Beckett, superintendent, Aldenham House Gardens. Received February 12, 1926.

66680. BERBERIS BRACHYPODA Maxim.

Var. gibbsii. An attractive shrub from western China, 4 to 7 feet high, with ovate, serrate leaves, long slender panicles of yellow flowers, and scarlet fruits often half an inch in length.

For previous introduction see No. 61973.

66681. BERBERIS CANADENSIS Mil.

Received as *Berberis fischeri* which is now considered to be a form of *B. canadensis*. An ornamental of great decorative value. The showy fruits are very effective.

For previous introduction see No. 65471.

66680 to 66693—Continued.

66682. *BERBERIS CANDIDULA* C. Schneid.

A charming evergreen of compact growth, with leaves silvery on the underside. (*Beckett.*)

66683. *BERBERIS CONSIMILIS* C. Schneid.

A yellow-flowered shrub, of unknown origin, cultivated at the Arnold Arboretum, Jamaica Plain, Mass., since 1904. The spiny-dentate oval-oblong leaves are 2 centimeters long, and the ellipsoid fruits are purple.

66684. *BERBERIS GIRALDII* Hesse.

A species with large deciduous bronze foliage and compact bunches of scarlet berries. (*Beckett.*)

66685. *BERBERIS HOOKERI* Lem.

Var. *compacta*. A compact dwarf variety with bright evergreen leaves. (*Beckett.*)

66686. *BERBERIS JACOUNII* Hort.

A semievergreen, strong-growing barberry, with medium-sized, glaucous, finely serrated leaves and dark-red berries in small clusters. (*Beckett.*)

66687. *BERBERIS MORRISONENSIS* Hayata.

A barberry closely resembling *Berberis dictyophylla*. As described by B. Hayata (Journal of the College of Science, Imperial University, Tokyo, vol. 30, p. 25), it is an erect, densely branched shrub, with 3-parted spines and fasciated leathery oval leaves. Unlike *B. dictyophylla*, the berries are in fascicles and are more nearly round.

For previous introduction see No. 65473.

66688. *BERBERIS ORTHOBOTRYS* Bienert.

A semievergreen barberry with very large crimson berries. (*Beckett.*)

For previous introduction see No. 53637.

66689. *BERBERIS PARVIFOLIA* Sprague.

A low, half-evergreen shrub with small, narrow, usually entire leaves and terra-cotta colored fruits. Native to western China.

For previous introduction see No. 33022.

66690. *BERBERIS* sp.

Farrer No. 355.

66691. *BERBERIS* sp.

Forrest No. 20179.

66692. *BERBERIS* sp.

Forrest No. 20292.

66693. *BERBERIS* sp.

Purdum No. 543.

66694. *BROSIMUM ALICASTRUM* Swartz.
Moraceae.

From Merida, Yucatan, Mexico. Seeds presented by Julio Rendon. Received February 4, 1926.

Ramón. A large tropical American tree with shining green narrowly elliptic leaves and round yellow fruits about an inch in diameter. The fruit contains a single large seed, known as "bread-nut" in Jamaica; it is roasted and eaten in that country. The leaves are said to be good cattle feed.

For previous introduction see No. 53534.

66695. *ORCHIS PAPILIONACEA* L. Or-
chidaceae.

From Morocco. Bulbs collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received September 8, 1925. Numbered January, 1926.

No. 38. Found in a Berber cemetery, near Amizmiz, in the Great Atlas Mountains, south of Marrakesh, May 30, 1925. A terrestrial orchid, about 18 inches high, which grows in soil that bakes as hard as a brick before the last of May. This variety produces tubers the size of a pigeon's egg, and attractive red flowers.

For previous introduction see No. 64963.

66696 and 66697. *ARTOCARPUS INTEGRA*
(Thunb.) L. Moraceae. Jackfruit.

From Ceylon. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 26 and March 4, 1926.

66696. No. 324. Collected near Kandy, January 20, 1926. The "honey jackfruit" or peniwaraka of the Singhalese. The delicate sweet fruit pulp around each seed is excellent eating. It is quite unlike that of the ordinary jackfruit.

66697. No. 361. "Honey jackfruit", or peniwaraka. Seeds from a large fruit obtained from one of the hotel porters.

66698. *COLOCASIA ESCULENTA* (L.)
Schott. Araceae. Dasheen.

From China. Corms collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February 18, 1926.

No. 330. *Kau chau oo*. Obtained at Chukouen, Lohkongtung, December 27, 1925. A dasheen cultivated to a limited extent in the region of Lohkongtung and elsewhere. This variety, rarely used as an esculent, is commonly dried and sold to drug shops. It is distinguished from the commonly cultivated varieties by having the offshoots closely adhering to the main corm so that a year's growth results in a large irregular mass rather than a number of nearly severed cormels. (*McClure.*)

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ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

July 25, 1928

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This inventory is a contribution from

<i>Bureau of Plant Industry</i>	WILLIAM A. TAYLOR, <i>Chief.</i>
<i>Office of Foreign Plant Introduction</i>	KNOWLES A. RYERSON, <i>Horticulturist, in Charge.</i>

UNITED STATES DEPARTMENT OF AGRICULTURE

INVENTORY No. 87



Washington, D. C.

Issued February, 1929

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT
INTRODUCTION, BUREAU OF PLANT INDUSTRY, APRIL 1 TO JUNE 30,
1926 (NOS. 66699 TO 67836)

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INTRODUCTORY STATEMENT

THREE agricultural explorers were carrying on their investigations in foreign lands during the three-month period represented by this eighty-seventh inventory.

David Fairchild, in company with P. H. Dorsett, made an extended tour along the northern coast of Sumatra and also spent some time in Java and Ceylon. Their itinerary included the Sibolangit Botanic Garden, near Medan, Sumatra, and the Hakgala Botanic Garden, Newara Eliya, Ceylon. The material collected came from these botanic gardens, from the markets of the native villages visited, and from the wild. It consisted for the most part of fruit-bearing plants, ornamentals, and leguminous plants of possible value as cover crops for the warmer parts of the United States. Breeders of small fruits will be interested in the numerous species of *Rubus* (Nos. 67592 to 67604; 67728 to 67740) obtained mostly in Sumatra. Several species of *Ficus* (Nos. 67557 to 67570; 67696 to 67705) from Sumatra will be tested in southern Florida, where already a number of these wild figs have proved popular as shade trees.

F. A. McClure continued to work in the general vicinity of Canton, China, collecting plant material largely from the native markets of the neighboring villages. At one small place in the Lungtau Mountains he obtained seeds of the Faan kwa cushaw (*Cucurbita moschata*, No. 66735). A previous introduction (No. 54427), also from the vicinity of Canton, showed this to be an excellent variety of cushaw, producing large fruits of good quality and flavor. Mr. McClure also collected rhizomes of several bamboos, mostly belonging to the genus *Phyllostachys* (Nos. 66781 to 66789; 66900 to 66902; 667398, 67399), a number of which furnish edible young shoots.

Through the courtesy of the Institute of Applied Botany, **Lenin-**grad, Russia, the department received an interesting shipment of seeds of Russian plants (Nos. 67649 to 67668), consisting of locally developed varieties of cucurbitaceous vegetables from widely separated parts of the country.

From the little-known island of Tasmania were received seeds of several native ornamental shrubs and herbaceous perennials not previously introduced through this office (Nos. 67805 to 67834). Among these may be mentioned *Cyathodes divaricata* (No. 67812), a juniperlike shrub with rigid branches and leaves and white flowers on recurved stems; also three species of everlasting (*Elichrysum* spp.; Nos. 67814 to 67816), erect evergreen shrubs with very narrow leaves and showy flower clusters. Somewhat similar in nature to the Tasmanian shipment is a collection of shrubs sent in from South Australia (Nos. 67067 to 67087). Most of these are new to American horticulture. The collection includes 10 species of *Melaleuca* (Nos. 67077 to 67086); these are said to be drought resistant, and many have showy flowers.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

KNOWLES A. RYERSON,
Senior Horticulturist, in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., July 1, 1928.

INVENTORY¹

66699. DURIQ ZIBETHINUS Murr. Bombacaceae. Durian.

From Java. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received June 28, 1926.

No. 787. Seeds from a durian obtained at the market in Soerabaya, May 17, 1926. According to Macmillan (Handbook of Tropical Gardening and Planting), this is a very large, handsome pyramid-shaped tree, native to the Malay Archipelago, and commonly cultivated [in the Straits Settlements, Burma, Java, etc.], for the sake of its celebrated fruit. The latter, produced on the older branches, varies somewhat from round to oval in shape, and usually weighs from 5 to 7 pounds, though sometimes as much as 10 pounds. It is armed with thickly set formidable prickles about one-half inch long; when ripe it becomes slightly yellow and has an offensive odor. The cream-colored pulp surrounds the seed in the edible portion; this is most highly prized by the Malays and other oriental races and is also relished by the Europeans who acquire a taste for it. The large seeds may be roasted and eaten like chestnuts. Durian fruits are variable in size, shape, flavor, and quantity of pulp, according to variety. The trees also vary in productiveness, some varieties being almost barren. Selection and high cultivation should therefore be practiced, in order to obtain the best fruits. The tree is readily propagated by seed if sown fresh. The large fleshy seed is of short vitality and germinates in seven to eight days.

For previous introduction see No. 45179.

66700 and 66701. MEDICAGO SATIVA L. Fabaceae. Alfalfa.

From Sable, Sarthe, France. Seeds obtained from A. Coutard, through H. L. Westover, Bureau of Plant Industry. Received April 1, 1926.

French-grown varieties.

66700. From Provence.

66701. From Sarthe.

66702. CITRUS GRANDIS (L.) Osbeck (C. decumana Murr.). Rutaceae. Grapefruit.

From Los Banos, Philippine Islands. Seeds presented by J. D. Bagarino, through W. T. Swingle, Bureau of Plant Industry. Received April 1, 1926.

A Philippine variety.

66703. LILIUM sp. Liliaceae. Lily.

From Canton, China. Bulbs collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 2, 1926.

No. 343. These bulbs were obtained from the wild at the foot of the Lungtaushan, January 9, 1926. *Paak hop fa*. The white flowers are borne on stems 1 to 1.5 meters high.

66704. PASPALUM NOTATUM Fluegge. Poaceae. Grass.

From San Jose, Costa Rica. Seeds purchased from J. Alfredo Quiros. Received April 6, 1926.

A perennial grass which has shown promise as a pasture grass in the southern United States; now introduced for further testing in that region.

For previous introduction see No. 62049.

66705. SALPICHROA RHOMBOIDEA (Gill. and Hook.) Miers. Solanaceae.

From Buenos Aires, Argentina. Seeds presented by Dr. Carlos L. Thays, director, botanic garden. Received April 3, 1926.

An ornamental relative of the tomato, with white flowers and edible white transparent berries which resemble the pineapple in flavor. Because of its attractive appearance and creeping habit it is very effective for trellises and arbors. Native to Argentina.

For previous introduction see No. 55478.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction, and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

66706. PISUM SATIVUM L. Fabaceae. Pea.

From Socorro, New Mexico. Seeds presented by B. R. Britton. Received April 3, 1926.

A variety originally imported from Sweden, larger than those now grown in the San Luis Valley, Colo. (Britton.)

66707 to 66713. ORYZA SATIVA L. Poaceae. Rice.

From Valencia, Spain. Seeds presented by Clemente Cerda. Received April 6, 1926.

66707. *Benloc*. From Ribera Alta.

66708. *Benloc*. From Ribera Baja.

66709. *Nano*. From Jativa.

66710. *Benloc Pla*.

66711. *Muga*.

66712. *Mil Seiscientos*.

66713. *Bomba*.

66714. CANNA INDICA L. Cannaceae.

From Rio de Janeiro, Brazil. Seeds presented by Amazonas Torres, Jardin Botanico. Received April 3, 1926.

A low, slender-stemmed, tropical American canna, 3 to 5 feet high, with green oblong leaves about a foot long and simple lax racemes of small flowers. The latter have pale-green narrow petals, reddish yellow lip, and bright red upper stamens.

66715 to 66720.

From Kaunas, Lithuania. Seeds presented by Dr. C. Regel, director, botanic garden. Received April 1, 1926.

European-grown seeds.

66715. CAPSICUM FRUTESCENS BACCATUM (L.) Irish. Solanaceae. Bush red pepper.

An erect shrubby perennial about 3 feet high, with slender flexuose branches, small white flowers, and small red fruits about one-fourth of an inch in diameter. Native to tropical America.

66716. CAPSICUM ANNUUM L. Solanaceae. Red pepper.

Variety *pendulum*. A pendulous variety.

66717. CREPIS RUBRA L. Cichoriaceae.

An annual red-flowered composite, one-half to 1½ feet high, native to southern Europe.

66718. MELLLOTUS ALTISSIMA Thuill. Fabaceae. Sweet clover.

For previous introduction see No. 30242.

66719. NICOTIANA RUSTICA L. Solanaceae.

Aztec tobacco.

66720. PISUM SATIVUM L. Fabaceae. Pea.**66721 to 66723. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.**

From Norrköping, Sweden. Seeds presented by Algot Holmberg & Son, at the request of Dr. Hérnfrid Witte, Swedish State Seed Testing Station, Stockholm. Received April 8, 1926.

Swedish strains.

66721. *Gotaöcker*. From Algotsholms.

66722. *Lattjördestyp*.

66723. *Styvjördestypen*.

66724 to 66728.

From Pretoria, Union of South Africa. Cuttings presented by I. B. Pole Evans, chief, division of botany, Department of Agriculture, through Eugene May, Bureau of Plant Industry. Received April 12, 1926.

66724. CARALLUMA LEENDERTZIAE N. E. Brown. Asclepiadaceae.

A dwarf fleshy plant, native to South Africa with thick stems about 4 inches high, and dark, purple flowers 2 inches wide in few-flowered umbels.

66725. HUERNIA LOESENERIANA Schlechter. Asclepiadaceae.

A dwarf fleshy perennial with square stems an inch or two long and bell-shaped, brownish purple flowers about an inch across, borne near the bases of the young stems. Native to dry regions in the Transvaal.

66726 to 66728. STAPELIA spp. Asclepiadaceae.**66726. STAPELIA GETTLEFFII R. Pott.**

A low, fleshy South African plant with erect four-angled stems 8 to 10 inches high and one to three greenish yellow and purple five-lobed flowers with lobes nearly 3 inches long.

66727. STAPELIA LEENDERTZIAE N. E. Brown.

A low erect succulent plant about 4 inches high, with angled stems toothed at the angles and one or two flowers. The flowers, about 3 inches long and 3 to 4 inches wide at the mouth, are dark brownish purple. Native to the Transvaal, South Africa.

66728. STAPELIA NOBILIS N. E. Brown.

A low, fleshy South African perennial, branching at the base, with four-angled erect softly hairy stems 3 to 5 inches long and light-yellow flowers about an inch across, marked with numerous irregular transverse crimson lines and thinly covered with long erect purple hairs.

66729. MEDICAGO SATIVA L. Fabaceae. Alfalfa.

From London, England. Seeds purchased from McMaster & Frankish. Received April 10, 1926.

A South African alfalfa.

66730 to 66766.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 2, 1926.

66730 to 66732. BRASSICA spp. Brassicaceae.**66730. BRASSICA sp.**

No. 342. *Kai tsoi*, *Heung ta tsoi*. A coarse, open-growing vegetable with crinkly leaves which tend to vary in the direction of frilled margins.

66731. BRASSICA sp.

No. 366. Obtained from a farmer at Yeunguk, Lungtau Mountains, January 13, 1926. *Yau tsoi*. The most commonly cultivated crop during the winter months when the rice terraces would otherwise be fallow. The oil expressed from the seeds of this vegetable is used both as an esculent and as an illuminant.

66732. BRASSICA sp.

No. 395. *Yau tsoi*. An oil-producing mustard obtained at Shiu Chow, January 23, 1926.

66730 to 66766—Continued.

66733 and 66734. *CORCHORUS CAPSULARIS* L. Tiliaceae. Jute.

For previous introduction see Nos. 61226 to 61229.

66733. No. 368. Obtained at Tsangsheng, January 30, 1926. *Wong ma*. This plant is the common source of coarse fibers for the making of small rope and cord as well as sacking. It is planted rather closely in rows 6 to 8 inches apart in raised beds. The purpose of crowding the plants into close quarters is to make them grow tall without branching. The hemp is marketed in two forms—*Shaang ma*, which is removed without having been soaked, and *Shuk ma*, which is removed from the plants only after they have been soaked. The *Shuk ma* is also beaten and the outer bark removed before it is marketed.

66734. No. 383. January 13, 1926. *Wong ma*. A common hemp cultivated in the region of Yeunguk, Lungtau Mountains.

66735. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae. Cushaw.

No. 345. *Faan kwa*. Obtained January 9, 1926, at Yeunguk, Lungtau Mountains, from a 20-pound pumpkin of excellent quality and flavor. The skin is golden buff mottled with yellow, and the flesh is golden yellow.

For previous introduction see No. 64154.

66736. *DIOSPYROS* sp. Diospyraceae. Persimmon.

No. 341. *Ye tsz tsai*, *Hau pei tsai*. A fruit obtained at Tsehaang ravine, Lungtau Mountains, January 8, 1926.

66737. *DIOSPYROS* sp. Diospyraceae. Persimmon.

No. 384. *Hau pei tsai*. Fruits obtained from wild trees near Miupukan, en route from Yeunguk to Fungwaan, January 14, 1926. These trees, dwarfed by the fact that they were growing on a steep, rocky cliff almost devoid of soil and by periodic chopping by wood hunters, were otherwise very much like the cultivated persimmons found farther south and in other parts of the Province. The fruits, which ripen in September and October, are small, globular and golden yellow to reddish yellow, and edible when thoroughly ripe.

66738. *ELEUSINE CORACANA* (L.) Gaertn. Poaceae.

No. 364. *Sai suk*. Obtained at Yeunguk, Lungtau Mountains, January 13, 1926.

For previous introduction see Nos. 60478 to 60480.

66739. *FAGOPYRUM VULGARE* Hill (*F. esculentum* Moench.). Polygonaceae. Buckwheat.

No. 397. *Saam kok maak*, *Fa maak*. A very small variety of buckwheat obtained at Shiuchow, January 24, 1926.

For previous introduction see No. 64367.

66740. *GOSYPIUM NANKING* Meyen. Malvaceae. Cotton.

No. 367. *Min fa*. A very small variety with infinitesimal bolls, the kind commonly cultivated for home use; obtained at Yeunguk, Lungtau Mountains, January 13, 1926.

For previous introduction see No. 63843.

66741. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

No. 365. *Ko leung suk*. Yeunguk, Lungtau Mountains, January 13, 1926. The seeds are used for human consumption and the threshed-out heads are bound into brooms.

66730 to 66766—Continued.

66742. *LILIUM* sp. Liliaceae. Lily.

No. 343. *Paak hop fa*. *Paak kung fa*. Obtained from the wild at the foot of the Lungtau Mountains, January 9, 1926. The white flowers are produced on stems 1 to 1.5 meters high.

66743 to 66757. *ORYZA SATIVA* L. Poaceae. Rice.

66743. No. 338. *Leng noh kuk*. Obtained from the Iu aborigines at Tsehaang, Lungtau Mountains, January 8, 1926. An upland glutinous rice, beardless, with dark-purple husks, which is planted in April or May and harvested in August or September.

66744. No. 339. *Leng chim kuk*. An upland variety of starchy rice obtained from the Iu aborigines at Tsehaang, Lungtau Mountains, January 8, 1926.

66745. No. 372. *Tso woh kuk*. An early variety of starchy rice obtained at Yeunguk, Lungtau Mountains, January 12, 1926.

66746. No. 373. *Yau chim kuk*. Obtained January 11, 1926, at Yeunguk, Lungtau Mountains.

66747. No. 374. *Fu kong chim*. "Foo River Starchy," a bearded variety obtained at Yeunguk, Lungtau Mountains, January 12, 1926.

66748. No. 375. *Kaang kuk*. A bearded variety obtained at Yeunguk, Lungtau Mountains, January 14, 1926.

66749. No. 376. A red variety obtained at Yeunguk, Lungtau Mountains, January 11, 1926.

66750. No. 377. *Sai fa hoh*. "Small-flowered glutinous" variety obtained at Yeunguk, Lungtau Mountains, January 13, 1926.

66751. No. 378. *Tso noh*. "Early glutinous" variety obtained at Yeunguk, Lungtau Mountains, January 13, 1926.

66752. No. 403. *Ha noh kuk*. Shiuchow. January 24, 1926.

66753. No. 404. *Paak chim*. A starchy variety obtained at Shiuchow, January 24, 1926.

66754. No. 405. *Yau chim*. A starchy variety obtained at Shiuchow, January 24, 1926.

66755. No. 406. *Chi kuk*. A late variety of starchy rice obtained at Shiuchow, January 24, 1926.

66756. No. 407. *Tso kuk*. An early variety of starchy rice obtained at Shiuchow, January 24, 1926.

66757. No. 408. *Hung kuk*. A red variety of starchy rice obtained at Shiuchow, January 24, 1926.

66758. *PYRUS* sp. Malaceae. Pear.

No. 340. *Tong lei tsi*. A small round wild pear obtained from a tree growing in granitic soil on the bank of the Tsehaang Creek, Lungtau Mountains, January 8, 1926, at an altitude of about 800 meters. The tree, 10 meters high, 25 centimeters in diameter, and of rather spreading habit, appeared very healthy and heavily laden with fruit. This variety may be a possible stock for cultivated pears.

66759 and 66760. *SESAMUM ORIENTALE* L. Pedaliaceae.

Obtained at Shiuchow, January 24, 1926.

For previous introduction see No. 60939.

66759. No. 401. *Paak chi ma*. White seeds.

66760. No. 402. *Haak chi ma*. Black seeds.

66730 to 66766--Continued.

66761 and 66762. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

Obtained at Yeunguk, Lungtau Mountains, January 11, 1926.

66761. No. 379. *Tsai tsing tau*. A large, pale-green variety.

66762. No. 380. *Tsai wong tau*. A white to cream-colored variety.

66763. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 400. *Min mak*. January 24, 1926. The commonly cultivated variety found in the vicinity of Shiuchow.

66764 and 66765. VIGNA SESQUIPEDALIS (L.) Fruwirth. Fabaceae. Yard Long bean.

Obtained at Yeunguk, Lungtau Mountains, January 13, 1926.

For previous introduction see No. 64339.

66764. No. 381. *Hung tau*. A red variety.

66765. No. 382. *Oo tau*. A black variety.

66766. TRACHYCARPUS EXCELSUS (Thunb.) Wendl. Phoenicaceae. Palm.

No. 369. *Tsung*. Obtained at Yeunguk, Lungtau Mountains, January 13, 1926. This palm is commonly cultivated on a small scale in the northern part of this Province for the fibers which it yields. The broad tough fibrous sheathing bases of the leaf petioles are sewed together to make rain capes, and the fibers are used to make small rope.

For previous introduction see No. 48280.

66767 and 66768.

From Bahia, Brazil. Seeds presented by Rev. Camillo Torrend, Collegio Antonio Vieira. Received April 8, 1926.

66767. CAMPOMANESIA MASCHALANTHA (Berg.) Kiaersk. Myrtaceae.

A large tree producing very sweet fruits which are greenish when ripe and commonly called *Guabiroba* in the southern and central parts of Brazil.

66768. CUPHEA BALSAMONA Cham. and Schlecht. Lythraceae.

According to an article published in *Chacaras E Quintas* (vol. 31, p. 426, May 15, 1925) by Father Torrend, this plant has acquired an excellent reputation as forage in southern Brazil. Even when other fodder plants are abundant, cattle are said to consume with avidity this *Barba de San Pedro*, as it is called.

For previous introduction see No. 64537.

66769 and 66770.

From Summit, Canal Zone. Seeds presented by Holger Johansen, plant introduction garden. Received April 9, 1926.

66769. CALYCOPHYLLUM CANDIDISSIMUM (Vahl) DC. Rubiaceae.

This Central American timber tree, known commercially as the *Degame*, is described by S. J. Record (*Timbers of Tropical America*, p. 547) as being 40 to 65 feet high with a straight trunk free from limbs. The wood has the strength, toughness, and resilience of hickory and is used for making agricultural implements, tool handles, and similar articles.

For previous introduction see No. 63628.

66770. HELICONIA sp. Musaceae.

Bananalike plants, often with beautifully marked foliage. Native to tropical America.

66771. PRUNUS ARMENIACA L. Amygdalaceae. Apricot.

From Chihli, China. Scions collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 21, 1925. Numbered June 1926.

No. 2024. February 15, 1925. *Tsei pu pou hsing* (they will not steal). Found in decomposed granite soil in the foothill region of Tsanfengyung, west of Huailai, at an altitude of about 1,800 feet. The yellow-fleshed freestone fruits, 1 to 2 inches in diameter, ripen during the middle of June, becoming green.

66772 to 66777.

From Rabat, Morocco. Seeds presented by A. Pochon, Directeur, Jardin d'Essais de Rabat, at the request of David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received April 9, 1926.

66772. ACACIA CYCLOPS A. Cunn. Mimosaceae.

A low shrubby Australian acacia, used in Morocco with great success as a hedge plant and in South Africa as a sand binder on the seashore. The yellow flowers are in dense globular heads.

For previous introduction see No. 48041.

66773. ATRIPLEX HALIMUS L. Chenopodiaceae.

A low, spreading, North African shrub, with gray foliage, used extensively in Morocco as a hedge plant close to the sea.

66774. LOPEZIA BICOLOR Hort. Onagraceae.

A superb climbing plant from Mexico, with small pink flowers which make it a peculiarly delicate plant for walls and rockwork. (Note by David Fairchild in letter of May 2, 1925.)

66775. MESEMBRYANTHEMUM sp. Aizoaceae.

A low-growing succulent plant of possible value as an ornamental for the subtropical sections of the United States.

66776. PRUNUS ARMENIACA L. Amygdalaceae. Apricot.

Much earlier than the European varieties, maturing its fruits at the beginning of June. Its foliage is smaller than that of the European apricot and when young is of a characteristic red. Used here as a stock, and the ordinary apricot thrives splendidly on it. The trees, which grow to a very old age, produce enormous crops of fruits of small size but of good flavor. (Note by David Fairchild in letter of May 2, 1925.)

66777. VITTADINIA TRILOBA (Gaud.) DC. (*V. australis* A. Rich.). Asteraceae.

This little Australian composite makes a superb mass of rosy-white flowers here in Morocco. (Note by David Fairchild in letter of May 2, 1925.)

66778 and 66779. ZEA MAYS L. Poaceae. Corn.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 2, 1926.

66778. No. 336. Yellow Flint corn obtained from Iu aborigines at Tsehaang, Lungtau Mountains, January 7, 1926. *Tso paau suk*, *Tso woh paau*. Rather small, somewhat pointed ears.

66779. No. 337. White Flint corn obtained from Iu aborigines at Tsehaang, Lungtau Mountains, January 7, 1926. *Chi paau suk*, *Tai woh paau*. A yellowish white variety with larger and better shaped ears than No. 336 [No. 66778]. It is also a later variety, being planted here in May and June and harvested in September or October.

66780. GOSYPIUM NANKING Meyen.
Malvaceae. Cotton.

From Nanking, China. Seeds obtained from R. H. Porter, acting head of cotton department, Nanking University, through C. B. Doyle, Bureau of Plant Industry. Received April 15, 1926.

Million Dollar.

66781 to 66789.

From Canton, China. Rhizomes collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 7, 1926.

66781. ARUNDINARIA sp. Poaceae. Bamboo.

No. 334. January 7, 1926. *Tip mo chuk*. A wild bamboo found in a dense brake on the sandy flood plain of a little stream, Tsehaang, Lungtau Mountains. The rough culms, 1 to 4 meters high and three-fourths to 15 centimeters in diameter, have very long internodes and very small interior cavities; the branches are tufted, very upright, and stiff; the leaves are large and used to line bamboo hats.

66782 to 66788. PHYLLOSTACHYS spp. Poaceae. Bamboo.**66782. PHYLLOSTACHYS sp.**

No. 335. January 7, 1926. *Kam chuk*. A wild bamboo growing on the sandy flood plain of a little stream, Tsehaang, Lungtau Mountains. The young shoots are edible. The culms, up to 8 meters high and 2 or 2.5 centimeters in diameter, are pale green and rather thin-walled, and the branches are usually in pairs.

66783. PHYLLOSTACHYS sp.

No. 344. January 9, 1926. *Fu chuk*. From Lukchukhaang, at the foot of the Lungtau Mountains. A wild variety with culms up to 11 centimeters in diameter and 10 meters long, deep green, gradually turning yellow in old age and which are rather thin-walled. The leaves are very narrow, the branchlets slender, somewhat drooping, and the young shoots are edible but must be parboiled to remove a bitter principle which gives to the bamboo its name "bitter bamboo."

66784. PHYLLOSTACHYS sp.

No. 346. January 10, 1926. *Oo chuk*. From the wild in a ravine on Peng Mountain, Lungtau Mountains. The culms, which in this region have a height of about 5 meters and a diameter of 2 centimeters, are more or less completely covered with purplish dots, giving them a dark or black appearance from a distance, hence the name "black bamboo." These culms are of no special use excepting for pipes as curiosities. The young shoots, though edible, are not of special merit. The surface of the rhizomes is quite black.

66785. PHYLLOSTACHYS sp.

No. 348. Obtained from the wild near Yeunguk, Lungtau Mountains, January 10, 1926. A small bamboo with culms up to 4 meters high and 1.5 centimeters in diameter, which turn yellow early. The culm sheaths are said to be spotted with brown, hence the name *Fa hok chuk*. The young shoots are edible.

66786. PHYLLOSTACHYS sp.

No. 349. *Nai chuk*. From the wild, near Yeunguk, Lungtau Mountains, January 11, 1926. The culms are up to 4 meters high and 1.25 centimeters in diameter, with most of the upper portion solid, which makes them somewhat top-heavy and likely to be bent over by any unusual weight, such as the growth of vines. The young shoots are eaten.

66781 to 66789—Continued.**66787. PHYLLOSTACHYS sp.**

No. 387. *Kam chuk*. From the wild near Shekwohtsz, Chauen Mountains, January 17, 1926. This bamboo is scarcely distinguishable, upon first sight, from *Phyllostachys pubescens*, but upon careful examination, however, it is seen to differ in having, on the average, slightly larger leaves, slightly longer internodes, and a double ridge at the nodes instead of a single ridge; the culms have thinner walls and the rhizomes are rounder in cross section and smaller. The young shoots are highly esteemed by the Chinese. In these mountains, where it covers large areas, the shoots are dried in great quantities for the market.

66788. PHYLLOSTACHYS sp.

No. 388. *Woh tsz*. Obtained from the vicinity of Shekwohtsz, Chauen Mountains, January 18, 1926. Hills and valleys of these mountains are clad with this soft-green feathery bamboo which in former peaceful times supplied two great industries, paper making and the drying of young shoots. This is the most highly esteemed and in general the bamboo most widely adapted to the everyday needs of the people. Practically all of the paper manufactured in this Province is made of it. It is unusual in that it produces shoots during the winter months which serve as a table delicacy. The pale-green culms, especially adapted to the making of carrying poles, furniture, and household implements, are covered with a dense short stiff pubescence when young.

66789. (Undetermined.)

No. 399. *Ngau tsin chuk*. Obtained from the wild at Waichungpeng Pass, Chauen Mountains. It is a small bamboo with rather thin-walled culms up to 5 meters in height and 2 centimeters in diameter. The young shoots, though edible, are of no special merit.

66790 and 66791. CHAYOTA EDULIS Jacq. (Seschium edule Swartz). Cucurbitaceae. Chayote.

From Santiago de las Vegas, Cuba. Fruits presented by Dr. Gonzalo M. Fortun, Director, Estación Experimental Agronómica. Received April 15, 1926.

Cuban chayotes.

66790. A white variety.

66791. A green variety.

66792. COIX LACRYMA-JOBI MA-YUEN (Rom.) Stapf. Poaceae. Adlay.

From Impolutao, Bukidnon, Philippine Islands. Seeds presented by Ole Waloe, through P. J. Wester, Ballston, Va. Received April 3, 1926.

Adlay seeds introduced for testing in tropical America.

66793. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Leningrad, Russia. Seeds purchased from A. Kol, chief of the bureau of introduction, Institute of Applied Botany. Received April 20, 1926.

A central Russian variety from the Shatilov Experiment Station, Government of Orel.

66794. SPIRAEA sp. Rosaceae. Spirea.

From Lexington, Ky. Plant presented by Mrs. Harriet Williams Carter. Received April 21, 1926.

Variety *Enchantment*. Said to be superior to any of the spireas now in the American trade. (Mrs. Carter.)

66795 to 66817.

From Montevideo, Uruguay. Seeds presented by Luis Guillot, director tecnico, Dirección de Paseos Públicos. Received April 9, 1926.

66795. *ALSTROEMERIA PULCHELLA* L. f. *Am-aryllidaceae*. Parrot *alstroemeria*.

A tall slender tuberous-rooted plant, native to Brazil, with dark-red flowers in a simple umbel on a scape 2 or 3 feet high.

66796. *BERBERIS GLAUDESCENS* St. Hil. *Berberidaceae*. Barberry.

A shrubby Brazilian barberry with three-parted brownish spines, glaucescent leaves about an inch long, and black berries.

For previous introduction see No. 40208.

66797. *CALYCOTOME SPINOSA* (L.) Link. *Fabaceae*.

A low spiny shrub, about 5 feet high, with trifoliolate leaves, hairy beneath, and yellow flowers about three-fourths of an inch long. Native to the Mediterranean region.

66798. *CORTADERIA SELLOANA* (Schult.) Aschers. and Graebn. *Poaceae*. Pampas grass.

A tall reedlike Brazilian grass with numerous culms 3 to 10 feet high and large feathery silvery white panicles 1 to 3 feet high.

66799 to 66806. *CREPIS* spp. *Cichoriaceae*.

66799. *CREPIS ALPINA* L.

An annual composite, 2 feet or more high, with oval-oblong, dentate leaves and yellow flower heads. Native to eastern Asia and Asia Minor.

66800. *CREPIS ASPERA* L.

A tall prickly annual, native to Asia Minor, with rather coarsely toothed leaves and small yellow flower heads.

66801. *CREPIS BIENNIS* L.

A biennial composite, native to southern Europe, with pinnately hastate leaves.

For previous introduction see No. 66626.

66802. *CREPIS BLATTARIOIDES* (L.) Vill.

A hairy perennial, with large flower heads; native to central and western Europe.

For previous introduction see No. 66521.

66803. *CREPIS DIOSCORIDIS* L.

An annual, yellow-flowered plant, native to southern Europe.

66804. *CREPIS FOETIDA* L.

An annual, more or less bristly European plant up to 2 feet high, with one to four heads of yellow flowers.

66805. *CREPIS RUBRA* L.

An annual red-flowered plant, native to southern Europe.

For previous introduction see No. 66617.

66806. *CREPIS VIRENS* L.

An erect plant, native to the Caucasus, with narrowly oblong leaves and yellow flowers.

66807. *DATURA INERMIS* Jacq. *Solanaceae*.

A white-flowered annual, about 2 feet high, native to Africa.

66795 to 66817—Continued.

66808. *INDIGOFERA ARTICULATA* Gouan (*I. argentea* L., not Burm.). *Fabaceae*. Indigo.

An erect perennial, native to Egypt, with a long taproot, a woody, much-branched stem about 2 feet high, and silvery hairy leaves. The small purplish flowers are in axillary racemes.

For previous introduction see No. 41929.

66809. *LESSERTIA BRACHYSTACHYA* DC. *Fabaceae*.

A shrubby leguminous plant, with compound leaves composed of about 10 pairs of very narrow leaflets, and purplish flowers in axillary racemes. Native to South Africa.

66810. *LONCHOCARPUS NEUROSCAPHA* Benth. *Fabaceae*. Lancepod.

An evergreen tree, native to Uruguay, with alternate pinnate leaves and racemes of purplish, pealike flowers.

66811. *LONICERA NERVOSA* Maxim. *Caprifoliaceae*. Honeysuckle.

A hardy, graceful Chinese shrub, about 10 feet high, with slender, dark-purple branchlets, oval, purple-veined leaves, small pink flowers, and black berries.

66812. *MESEMBRYANTHEMUM ADCENDENS* Haw. *Aizoaceae*.

A low stemless succulent, native to South Africa, with leaves about 2 inches long and white or reddish flowers.

66813. *MESEMBRYANTHEMUM AURANTIACUM* Haw. *Aizoaceae*.

A low fleshy South African plant, about a foot high, with smooth leaves an inch or less long and orange flowers about 1½ inches wide.

66814. *NICOTIANA RUSTICA* L. *Solanaceae*. Aztec tobacco.

For previous introduction see No. 56614.

66815. *ORYZOPSIS MILIACEA* (L.) Benth. *Poaceae*. Grass.

"Smilo grass." A perennial grass, native to the Mediterranean region and known in Australia as velt grass. In California it has been called "Smilo grass," "San Diego grass," "mountain rice," and "many-flowered millet." Under Californian conditions it has exhibited considerable promise. It has been generally introduced into Australia and New Zealand, where it possesses considerable merit. (Note by C. V. Piper under No. 48978.)

66816. *PHYSALIS PERUVIANA* L. *Solanaceae*. Poha.

For previous introduction see No. 56855.

66817. *PHYTOLACCA DIOICA* L. *Phytolaccaceae*. Ombu.

For previous introduction see No. 65963.

66818 to 66832. *FRAGARIA* spp. *Rosaceae*. Strawberry.

From Maidstone, England. Plants purchased from George Bunyard & Co., The Royal Nurseries. Received April 21, 1926. Notes from Bunyard's Catalog of Fruit Trees, 1924-25.

66818. *FRAGARIA* sp.

Aprikose. A variety producing fairly large, pinkish red berries, of remarkable apricot flavor, distinct from other varieties. Season medium.

66818 to 66832—Continued.

66819. FRAGARIA sp.

Bedford Champion. A robust plant with fine foliage, producing large berries with a refreshing acid flavor; season medium.

66820. FRAGARIA sp.

British Queen. Pale-red berries of exquisite flavor. Season medium.

66821. FRAGARIA sp.

Countess. A late-seasoned variety producing handsome dark-crimson, wedge-shaped berries; only a moderate cropper, but in point of flavor first rate.

66822. FRAGARIA sp.

King George V. An improved, earlier and better flavored *Royal Sovereign*. The finest strawberry of the century for forcing and outdoor culture.

66823. FRAGARIA sp.

Laxton's Latest. A very fine late-seasoned variety of moderate growth; the shining, deep-crimson berries, fine flavored, are enormous in size, yet firm, approaching 2 ounces.

66824. FRAGARIA sp.

Laxtonian. Large, dark-crimson berries with firm flesh and good flavor which ripen about the same time as *Sir Joseph Paxton*. Season medium. One of the best of recent introduction.

66825. FRAGARIA sp.

Madame Kooi. A medium-seasoned variety, of Dutch origin, producing a large crop of enormous, white-fleshed berries which are hollow and of poor flavor.

66826. FRAGARIA sp.

President. A medium-seasoned variety which is one of the best all-round sorts in regard to quality and productiveness for main crop; it is fine for forcing, as it retains its flavor and bears well. The berries are handsome, of pale color, with a rich pine flavor.

66827. FRAGARIA sp.

Royal Sovereign. A very early, robust, hardy variety with grand foliage, which is a continuous cropper, producing very large berries of brisk luscious flavor, carrying well. This is the best variety where but one kind can be grown, and it is the finest for forcing, as proved at Wisley trials. Season early.

66828. FRAGARIA sp.

Sir Joseph Paxton. A medium-seasoned, hardy, prolific variety which is one of the best for the main crop. The bright glossy red berries are of excellent flavor when fully ripe; that is, when they reach a deep crimson.

66829. FRAGARIA sp.

The Duke. An earlier *Royal Sovereign* which is better in flavor and cropping and the best all-round variety. Season early.

66830. FRAGARIA sp.

Twentieth Century. A very vigorous variety producing an enormous quantity of large bright-red berries.

66831. FRAGARIA sp.

Utility. The finest late strawberry yet produced, which is good in all respects for color, size, and flavor.

66832. FRAGARIA sp.

Waterloo. A very large variety which withstands the heat well and is remarkable for its black mulberrylike appearance. It is a very late variety and is an inefficient maker of runners.

66833. PINUS CEMBRA SIBIRICA Loud.
Pinaceae. Pine.

From Leningrad, Russia. Seeds presented by A. Kol, chief of the bureau of introduction, Institute of Applied Botany. Received April 20, 1926.

A native Siberian pine, growing into a stately tree, which prefers a climate with cool nights. It produces fine white lumber and heavy cones filled with edible seeds which are freely sold in western and central Siberia. Native Russian name "Kedr." (Note by Frank N. Meyer under No. 35289.)

66834. TRIFOLIUM PRATENSE L. Fa-
baceae. Red clover.

From Town Mills, St. Columb Major, Cornwall, England. Seeds presented by T. Rowse Hosking, at the request of R. G. Stapledon, Director, Welsh Plant-Breeding Station, Aberystwyth, Wales. Received April 21, 1926.

Cornish Marl. English-grown seed.

66835. EXACUM ZEYLANICUM Roxb.
Gentianaceae.

From Peradeniya, Ceylon. Seeds presented by F. A. Stockdale, Director of Agriculture. Received April 16, 1926.

A herbaceous annual with a 4-sided stem, branched above, oblong, 3-nerved leaves about 3 inches in length, and sky-blue flowers, an inch and a half long, in terminal clusters. Native to Ceylon.

66836. TARENNA ASIATICA (L.) Kuntze
(*T. zeylanica* Gaertn.). Rubiaceae.

From Coimbatore, India. Seeds presented by the Government lecturing and systematic botanist. Received April 16, 1926.

A large shrub or small tree, with leathery, shining-green, oblong leaves up to 8 inches long and cymes of small white flowers. Native to western India and Ceylon.

66837. GERBERA JAMESONI Bolus. As-
teraceae. Flame-ray gerbera.

From Cattarattenne, Rattota, Ceylon. Seeds presented by C. J. Hutchinson. Received April 17, 1926.

Seeds of a hybrid strain of this South African herbaceous perennial, to be tested as an ornamental for the southern United States and California.

66838. LANDOLPHIA KIRKII Dyer.
Apocynaceae.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, division of botany. Received April 21, 1926.

A number of native climbing plants are used in East Africa as sources of rubber, and this shrubby vine is one of the most important, according to Thiselton-Dyer (Flora of Tropical Africa). It has thin, tough leaves, loose clusters of whitish flowers, and roundish fruits 1 to 3 inches in diameter.

For previous introduction see No. 61492.

66839 to 66860. NICOTIANA RUSTICA
L. Solanaceae. Aztec tobacco.

From Leningrad, Russia. Seeds presented by A. Kol, chief of the bureau of introduction, Institute of Applied Botany. Received April 20, 1926.

Russian-grown strains.

66839 to 66845. From Russia.

66839. *Black Sultan.*

66840. *Jamskaja Sloboda.*

66841. *Kosloff.* White seeded.

66839 to 66860—Continued.66842. *Pekheltz-Khomutskoje*.66843. *Pekheltz-Korablino*.66844. *Seslavino*.66845. *Sisy-Drasghi*. Black-blue.

66846 to 66857. From the Ukraina.

66846. *Bakoun Sosnitza*.66847. *Bakoun Verkiewka*.66848. *Black Bakoun*.66849. *Jabky*. Curled.66850. *Khaelivka*.66851. *Konotop*.66852. *Primak*.66853. *Shwitsent*.66854. *Srebrianka*.66855. *Talidan*.

66856. Tall green variety.

66857. *Yellow Makhorka*.

66858 to 66860. From Detskoje Selo.

66858. *Kolmak Turkestan*.66859. *Shwitsent Detskoje Selo*.66860. *Shwitsent*. White seeded.**66861 and 66862. CHAETOCHELOA ITALICA (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.**

From Nanking, China. Seeds presented by Wang Sheo, University of Nanking. Received April 13, 1926.

Chinese-grown millet.

66861. A golden-yellow variety.

66862. A white variety.

66863 and 66864.

From Port of Spain, Trinidad, British West Indies. Seeds presented by H. Caracciolo. Received April 19, 1926.

66863. *BAUHINIA ACUMINATA* L. *Caesalpinia*-ceae. *Snowy bauhinia*.

An upright bush about 6 feet high, with oval leaflets which close at night and white flowers 2 to 3 inches across. Native to southwestern Asia and suitable for greenhouse culture or for growing outside in summer.

For previous introduction see No. 30714.

66864. *ERYTHROXYLON COCA* Lam. *Erythroxylaceae*. *Cocaine tree*.

A South American shrub, probably indigenous to Peru, which is grown commercially on a large scale throughout the warmer parts of South America, also in Java and Ceylon, for the sake of cocaine, which is extracted from the dried leaves. For its best development the shrub requires a humid atmosphere and high culture.

66865. DIANELLA ENSIFOLIA (L.) Red. Liliaceae.

From Canton, China. Rhizomes collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 21, 1926.

No. 370. Originally from Heungshaan, near Takking, West River, and grown for a time at the Canton Christian College. *Kaau tsin tso*. A very attractive member of the lily family about one-third of a meter high, with long, grasslike leaves, lax panicles of creamy white flowers, and globose

blue fruits which remain on the plant for some time after maturing. The leaves are often thickly dotted with tiny spots which seem to be the result of rust infection.

For previous introduction see No. 49531.

66866. ILEX INTRICATA Hook. f. Aquifoliaceae. Holly.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Gardens. Received January 8, 1923. Numbered April, 1926.

A low rigid straggling shrub which forms impenetrable masses of interlaced woody branches. The leaves are bright green, thick, leathery, and spreading, and the fruits are globular and red. The shrub is a native of Sikkim and eastern Nepal, India, where it grows at altitudes of 10,000 to 11,000 feet.

66867. HELIANTHUS TUBEROSUS L. Asteraceae. Jerusalem artichoke.

From Paris, France. Tubers purchased from Vil-morin-Andrieux & Co. by D. N. Shoemaker, Bureau of Plant Industry. Received April 26, 1926.

Potato. A French variety.

66868 and 66869. EREMOCITRUS GLAUCA (Lindl.) Swingle (*Atalantia glauca* Benth.). Rutaceae. Australian desert kumquat.

From Dundas, New South Wales. Seeds presented by Herbert J. Rumsey. Received April 27, 1926.

A shrub or small tree about 14 feet high, native to the deserts of northeastern Australia. The small thick leathery leaves are gray green and the fruits are about half an inch in diameter. The acid juice of the fruits forms the basis of an agreeable beverage, and the peel has the sweetish flavor of the kumquat. It is the hardiest of all the evergreen citrus fruits.

For previous introduction see No. 53552.

66868. Selection (from an old tree).

66869. Selection.

66870 to 66882. GOSSYPIMUM spp. Malvaceae. Cotton.

From Cawnpore, United Provinces, India. Seeds presented by B. Rama Prasada, assistant economic botanist to the Government, Agricultural Department. Received April 20, 1926.

A collection of locally grown cotton varieties.

66870. *GOSSYPIMUM ARBOREUM* L.

A rare variety which is not cultivated anywhere. It is grown in the vicinity of temples and mosques, the produce being used for religious purposes. (*Prasada*.)

66871 to 66878. *GOSSYPIMUM NEGLECTUM* Todaro.

66871. A broad-lobed, white-flowered variety.

66872. A broad-lobed, white-flowered variety.

66873. A broad-lobed, white-flowered (fertile) variety.

66874. A broad-lobed, yellow-flowered variety.

66875. A broad-lobed, yellow-flowered variety.

66876. A broad-lobed, yellow-flowered (khaki) variety.

66877. A narrow-lobed, white-flowered variety.

66878. A narrow-lobed, yellow-flowered variety.

66870 to 66882—Continued.

66879. *GOSSYPIUM* sp.

No. 255.

66880. *GOSSYPIUM* sp.

No. 402.

66881. *GOSSYPIUM* sp.

No. 1031.

66882. *GOSSYPIUM* sp.

No. 1035.

66883 to 66886. TRIFOLIUM PRATENSE. L. Fabaceae. Red clover.

From Aberystwyth, Wales. Seeds presented by R. G. Stapledon, Director, Welsh Plant-Breeding Station. Received April 26, 1926.

66883. *Aa* 1216. *English Late.*

66884. *Aa* 1217. *Vale of Clwyd.*

66885. *Aa* 1227. *Wild red.*

66886. *Aa* 1234. *Wild red.*

66887. PRUNUS SALICINA Lindl. Amygdalaceae. Japanese plum.

From Harbin, Manchuria. Seeds presented by N. Glowkhoff, superintendent, botanical garden of the Manchurian Research Society. Received April 24, 1926.

To be tested as a hardy stock for stone fruits.

66888. CANNA sp. Cannaceae.

From Haina, Santo Domingo, Dominican Republic. Seeds presented by Dr. R. Ciferri, Director, Estación Agronómica de Haina. Received April 23, 1926.

A native species from Samana, Dominican Republic.

66889. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Durban, Natal, South Africa. Cuttings presented by H. H. Dodds, through E. W. Brandes, Bureau of Plant Industry. Received April 28, 1926.

A local variety.

66890. TRICHOSANTHES HYBRIDA Hort. Cucurbitaceae.

From Paris, France. Plant presented by Vilmorin-Andrieux & Co. Received April 26, 1926.

An ornamental cucurbitaceous vine, probably with showy, highly colored, globose gourdlike fruits.

66891. ORNITHOGALUM THYRSOIDES Jacq. Liliaceae. Chincherichee.

From Pretoria, South Africa. Seeds presented by Mervyn C. Mossop. Received April 26, 1926.

The flower heads, when in full bloom, are somewhat larger than a half-pint tumbler, and in the natural state stand up to about 2 or 2½ feet on their stems. (*Mossop.*)

For previous introduction see No. 62800.

66892 to 66894. GOSSYPIUM spp. Malvaceae. Cotton.

From Valletta, Malta. Seed presented by J. Borg, Superintendent of Agriculture. Received April 21, 1926.

66892. *GOSSYPIUM HERBACEUM* L.

Malta.

66893 and 66894. *GOSSYPIUM HIRSUTUM* L.

66893. *Gallipoli.*

66894. *Nankin.*

66895. DIANELLA ENSIFOLIA (L.) Red. Liliaceae.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 26, 1926.

No. 434. From plants grown at the Canton Christian College, which were originally collected at Heungshaan, in the vicinity of Takhing. *Kaau tain tso.*

For previous introduction and description see No. 49531.

66896. CHAYOTA EDULIS Jacq. Cucurbitaceae. Chayote.

From San Juan, Porto Rico. Fruits presented by O. W. Barrett, agricultural director, Department of Agriculture and Labor. Received April 28, 1926.

A white variety.

66897. PINUS CEMBRA SIBIRICA Loud. Pinaceae. Pine.

From Omsk, Siberia. Seeds presented by K. Murashinsky, Siberian Agricultural Academy. Received April 27, 1926.

No. 23162.

For previous introduction and description see No. 66833.

66898. CITRUS sp. Rutaceae.

From Kota Kenjaran, Sumatra. Seeds collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received April 29, 1926.

No. 631. A wild tree, about 6 inches in diameter and 30 feet or more in height, found on the trail near Kota Kenjaran. The fruit is practically round and 4½ inches in diameter, skin smooth and about three-fourths of an inch thick, flesh very sour and bitter.

66899. CITRUS sp. Rutaceae.

From Italy. Fruit obtained from a passenger arriving at New York. Received April 29, 1926.

To be grown to ascertain the horticultural value.

66900 to 66902. PHYLLOSTACHYS spp. Poaceae. Bamboo.

From China. Rhizomes collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received June and July, 1925. Numbered April, 1926.

66900 to 66902—Continued.

66900. PHYLLOSTACHYS sp.

No. 128. From Ooshek, on the Sui River, in the eastern part of Kwangsi Province. April 28, 1925. *Manchuk*, *Mansunchuk*. The sprouts are smaller, on the average, than those of *Manchuk* [No. 66901].

66901. PHYLLOSTACHYS sp.

No. 141. Ooshek. April 28, 1925. *Manchuk*.

66902. PHYLLOSTACHYS sp.

No. 150. Obtained from the wild on Beggar Mountain, Lohkongtung, May 24, 1925. *Ka fat to chuk*. This is a small bamboo, 2 to 3 meters high, and spreading by means of rhizomes. The young sprouts, which come in March and April, are considered by the local people to be very excellent, as it is not necessary to subject them to the parboiling and soaking process required by so many of the rhizome bamboos. Now and then a cane is said to appear with swollen nodes and shortened internodes, a characteristic doubtless responsible for the name given to this bamboo, which may prove to be the same as No. 110 [No. 63872]. Such canes are much sought after by the village people for pipestems.

66903 to 66950.

From Ottawa, Canada. Seeds presented by J. Adams, botanist, Central Experimental Farm. Received April 23, 1926.

66903 to 66910. ACONITUM spp. Ranunculaceae.

66903. ACONITUM FISHERI Reichenb.

Azure monkshood.

No. 675. Var. *acutum*. A herbaceous perennial with stems about 5 feet high, large three-parted leaves, and numerous pale-blue flowers in panicles. Native to Canada.

For previous introduction see No. 51745.

66904. ACONITUM HETEROPHYLLUM Wall.

No. 676. An erect herbaceous perennial 1 to 3 feet high, with broadly oval or rounded heart-shaped, more or less five-lobed leaves, and bright-blue flowers about an inch long, in compound racemes. Native to the temperate Himalayas.

66905. ACONITUM KUSNEZOFFII Reichenb.

No. 679. An erect hardy herbaceous perennial, native to northeastern Asia, with terminal clusters of bluish flowers.

66906 and 66907. ACONITUM LYCOCTONUM L.

Wolfbane.

A slender perennial reaching a height of 6 feet, with yellow or whitish flowers. Native to Europe and Siberia.

For previous introduction see No. 53122.

66906. No. 680. Var. *pyrenaicum*.66907. No. 681. Var. *scholeri*.

66908 and 66909. ACONITUM NAPELLUS L.

Aconite.

An erect herbaceous European perennial, with stems about 3 feet high, much-divided leaves, and racemes of blue flowers.

For previous introduction see No. 53082.

66908. No. 677. Var. *braunii*.66909. No. 678. Var. *grandiflorus*.

66910. ACONITUM ORIENTALE Mill.

Monkshood.

No. 682. A herbaceous perennial 4 to 5 feet high, native to the Caucasus, with large palmately divided leaves and light-yellow flowers.

66903 to 66950—Continued.

66911 to 66919. ANEMONE spp. Ranunculaceae.

66911. ANEMONE BALDENSIS L.

No. 691. A tuberous rooted white-flowered perennial about 6 inches high, native to Switzerland.

66912. ANEMONE CORONARIA L.

Poppy anemone.

No. 693. A low herbaceous perennial, a foot or less high with tuberous roots, finely divided leaves, and poppylike variously colored flowers. Native to the Mediterranean region.

66913. ANEMONE MONTANA Hoppe.

No. 694. A herbaceous perennial with oval pinnatifid leaves and nodding, deep-violet flowers. Native to southern Europe.

66914. ANEMONE NIGRICANS (Stoerck) Kerner.

No. 696. A hairy perennial native to central Europe, a foot or less high, with finely divided basal leaves, and blue or purple flowers an inch or two across.

66915 and 66916. ANEMONE PATENS L.

Spreading anemone.

A very hairy European anemone, about 8 inches high, with much-divided leaves and erect, bluish purple or whitish flowers with feathery styles.

66915. No. 698. Var. *wolfgangiana*.66916. No. 699. Var. *montana*.

66917. ANEMONE RIVULARIS Buch.-Ham.

Anemone.

No. 700. A woody ornamental plant from 1 to 3 feet in height, with three-parted basal leaves up to 6 inches in diameter and white or bluish flowers, 1 to 1½ inches long, in compound cymes. It is a native of temperate regions in India and Ceylon above 5,000 feet altitude.

For previous introduction see No. 47638.

66918 and 66919. ANEMONE SYLVESTRIS L.

Snowdrop anemone.

A European perennial commonly called the snowdrop anemone because of the drooping habit of the flowers before fully expanding, giving it a certain resemblance to the snowdrop (*Galanthus nivalis*). The white flowers, 1½ inches in diameter, are borne on long peduncles which arise singly from an involucre of leaves. These leaves are ternate or quinate with deeply toothed leaflets, and are hairy on the under surface.

For previous introduction see No. 49922.

66918. No. 701.

66919. No. 702. Var. *baicaliensis*.

66920 to 66922. BERBERIS spp. Berberidaceae.

Barberry.

66920. BERBERIS CARICA Hort.

No. 26.

66921. BERBERIS FISCHERI Hort.

No. 23. Probably a form of *Berberis canadensis*.

66922. BERBERIS CHINENSIS Poir.

A hardy barberry, native to the Caucasus, closely related to *Berberis sinensis*. It is 4 to 6 feet high, with slender branches and purplish berries.

66923 to 66925. COTONEASTER spp. Malaceae

66903 to 66950—Continued.

66923. *COTONEASTER ACUTIFOLIA* Turcz.
Peking cotoneaster.

No. 803. A bushy Chinese shrub, 5 to 7 feet high. The dull-green leaves are paler and hairy beneath, and the white flowers are borne three or more in corymbs. The smooth reddish fruits, one-third of an inch in diameter, are finally black.

For previous introduction see No. 53666.

66924. *COTONEASTER AFFINIS* BACILLARIS (Wall.) C. Schneid.

No. 804. A very graceful shrub, 15 feet high, spreading to a larger diameter. The white flowers, one-third of an inch across, are borne in clusters 1 to 2 inches in diameter. The small roundish fruits are purplish brown. Native to the Himalayas up to 10,000 feet altitude.

For previous introduction see No. 53668.

66925. *COTONEASTER* sp.

No. 810.

66926 to 66928. *CYTISUS* spp. Fabaceae. Broom.

66926. *CYTISUS SUPINUS* L.
Big flower broom.

No. 535. An upright shrub, up to 2 feet high, native to central Europe. The bright-yellow flowers are solitary in the spring but in headlike clusters later on in summer.

66927. *CYTISUS ELONGATUS* Waldest. and Kit.

No. 536. A stout, much-branched shrub up to 5 feet high with long upright branches, hairy leaflets, and yellow flowers. Native to central and southern Europe.

66928. *CYTISUS VULPINUS* Hort.

No. 539.

66929. *HEMEROCALLIS CITRINA* Baroni. Liliaceae.
Citron day lily.

No. 1181. A tall bulbous Chinese plant with very fragrant lemon-yellow flowers. The leaves are more than 3 feet long.

66930 to 66933. *IRIS* spp. Iridaceae. Iris.

66930. *IRIS APHYLLA* L. Stool iris.

No. 1124. A European iris with glaucous leaves up to a foot long, or sometimes leafless. The dark-lilac flowers are about 2 inches long.

66931. *IRIS DICHOTOMA* Pall. Vesper iris.

No. 1142. A northern Chinese iris with six to eight leaves, about a foot long, in fan-shaped clusters, a much-branched stem 2 feet high, and short-lived flowers, whitish and light purple.

For previous introduction see No. 65526.

66932. *IRIS SIBIRICA* L. Siberian iris

No. 1141. Var. *constantinopolitana*.

66933. *IRIS SORDIDA* Hort.

No. 1136.

66934. *LILIUM REGALE* Wilson. Liliaceae.
Regal lily.

No. 1188.

For previous introduction see 63775.

66935. *PENTSTEMON GENTIANOIDES* (H. B. K.) Poir. Scrophulariaceae.

No. 1033. A Central American perennial 3 to 4 feet high with purple flowers in a long leafy raceme.

66903 to 66950—Continued.

66936. *PHELLODENDRON JAPONICUM* Maxim. Rutaceae.

No. 987. A Japanese tree, up to 30 feet high, with dark-brown bark, compound leaves composed of 9 to 13 ovate, dull-green leaflets, and black fruits in panicles 2 to 3 inches across.

66937 to 66940. *POLEMONIUM* spp. Polemoniaceae.

66937. *POLEMONIUM BOREALE* Adams.

No. 629. An erect hardy herbaceous perennial, native to Siberia, with terminal panicles of blue flowers.

66938. *POLEMONIUM CAERULEUM* L.
Greek valerian.

No. 630. A blue-flowered herbaceous perennial, 1 to 3 feet high, native to Europe.

66939. *POLEMONIUM MEXICANUM* Cerv.

No. 636. A herbaceous perennial, less than a foot high, with pinnate leaves. Native to Mexico.

66940. *POLEMONIUM PAUCIFLORUM* S. Wats.

No. 637. A herbaceous perennial 1 or 2 feet high, with yellow flowers. Native to Mexico.

66941 and 66942. *PUSCHKINIA* spp. Liliaceae.

66941. *PUSCHKINIA SCILLOIDES* LIBANOTICA (Zucc.) Boiss.

No. 1196. A half-hardy bulbous plant, native to Asia Minor, and related to the squills. The bluish white flowers are in racemes on a scape 4 to 12 inches high, and the leaves are about the same length.

66942. *PUSCHKINIA SCILLOIDES* Adams.

No. 1197. A bulbous plant, native to Asia Minor, about a foot high, with racemes of bluish flowers.

66943 to 66945. *ROSA* spp. Rosaceae. Rose.

66943. *ROSA CALCUTENSIS* Hort.

No. 943.

66944. *ROSA GUTTENSTEINENSIS* Jacq.

No. 950. A southern European shrub 6 feet high, with the whole plant glaucous and tinged with red. The five to seven oblong leaflets are simply toothed, the bright-red flowers are in small clusters, and the small globose fruits are red and pulpy.

66945. *ROSA WASSERBURGENSIS* Kirschl.

No. 972. Said to be a cross between *Rosa tomentosa* and *R. pendulina*.

66946. *SYRINGA EMODI* Wall. Oleaceae.
Himalayan lilac.

No. 598. A large robust Himalayan lilac 10 to 15 feet high, closely allied to *Syringa villosa*, but with the leaves whiter beneath. The panicles are usually columnar, 3 to 6 inches long, and not so richly colored as those of the above-mentioned species. It is useful in flowering rather late.

For previous introduction see No. 42319.

66947. *SYRINGA VILLOSA* Vahl. Oleaceae.
Late lilac.

No. 599. A bushy lilac about 8 feet high, with stout, upright branches, broadly oval, bright-green leaves, and pinkish lilac flowers in panicles 3 to 7 inches long. Native to China and the Himalayas.

For previous introduction see No. 38830.

66903 to 66950—Continued.

66948. *VIBURNUM HANCEANUM* Maxim. Caprifoliaceae.

No. 158. A hardy bushy deciduous shrub from southwestern China, where it becomes 6 to 10 feet high. The branches are mostly horizontal, and the roundish, slightly toothed, sharp-pointed leaves are dull dark green above and pale grayish beneath. The inflorescence consists of a flat umbel 2 to 4 inches across; the center is filled with small perfect inconspicuous flowers, surrounded by a few large white imperfect flowers about an inch wide. The roundish egg-shaped fruits are at first coral red and finally blue-black.

For previous introduction see No. 58473.

66949. *VIBURNUM MACROCEPHALUM* Fortune. Caprifoliaceae. **Chinese viburnum.**

No. 162. A spreading shrub 12 feet or more high, with dark-green, oval-oblong leaves 2 to 4 inches long, and yellowish white flowers in cymes 3 to 5 inches across. Native to China.

66950. *VIOLA ODORATA* L. Violaceae. **Sweet violet.**

No. 1091.

For previous introduction see No. 62798.

66951 to 66954.

From Groningen, Netherlands. Seeds presented by Dr. J. C. Schoute, director, botanic garden. Received April 29, 1926.

66951. *ALLIUM KARATAVIENSE* Regel. Liliaceae. **Onion.**

A herbaceous plant with very broad, ovate-oblong, flat leaves, and pink flowers borne in dense, convex umbels. The scapes are about 6 inches high. Native to Turkestan.

For previous introduction see No. 60228.

66952. *ALLIUM PANICULATUM* L. Liliaceae. **Onion.**

A perennial onion, up to 2 feet high, with linear, half-terete leaves and purplish flowers. Native to the Mediterranean region.

66953. *CREPIS BIENNIS* L. Cichoriaceae.

A biennial composite, native to Europe, 1 or 2 feet high, introduced for the use of geneticists.

66954. *TRIGONELLA CAERULEA* (L.) Seringe. Fabaceae.

An upright annual, 2 feet or less high, with bright-blue flowers. Native to southeastern Europe.

For previous introduction see No. 66644.

66955. *CYNOGLOSSUM WALLICHII* Don. Boraginaceae. **Hound's-tongue.**

From Bordeaux, Gironde, France. Seeds presented by Prof. L. Beille, Director, Botanic Garden of Talence. Received April 29, 1926.

An erect hairy, herbaceous perennial with ovate or lanceolate leaves and elongated racemes of very small, intensely blue flowers. It is very common in the western part of the temperate Himalayas.

For previous introduction see No. 47670.

66956 to 66969.

From Paris, France. Seeds presented by Prof. D. Bois, Paris Museum of Natural History. Received April 29, 1926.

66956. *CERCIS CHINENSIS* Bunge. Caesalpinaceae. **Chinese redbud.**

Tze ching. The Chinese redbud grows 10 to 12 feet high and stands drought very well. It is a very ornamental bush when in flower,

66956 to 66969—Continued.

blooming before the leaves are out. The leaves are large, glossy green, and more or less heart-shaped. (Note by Frank N. Meyer under No. 22458.)

66957. *CYTISUS LINIFOLIUS* (L.) Lam. Fabaceae. **Broom.**

A low shrub, 3 feet or less high, with erect silky hairy branches and very narrow shining-green leaflets with silvery lower surfaces. The bright-yellow flowers are in short compact clusters. Native to the Mediterranean countries.

For previous introduction see No. 66135.

66958. *HEMEROCALLIS MINOR* Mill. Liliaceae. **Dwarf day lily.**

An attractive bulbous plant, native to eastern Asia, with very narrow dark-green leaves a foot and a half long, with scapes about the same length bearing small clusters of golden-yellow flowers.

66959. *IRIS ENSATA* Thunb. Iridaceae. **Russian iris.**

Variety *pubularia*. A larger form with leaves purplish near the base; said to be used as a forage plant and to do well in very dry situations.

66960. *KNIPHOFIA ENSIFOLIA* Baker. Liliaceae. **Torch lily.**

A South African bulbous plant with sword-shaped leaves 3 feet long and a dense raceme of yellow flowers.

66961. *LABURNUM ANAGYROIDES ALSCHINGERI* (Vis.) C. Schneid. Fabaceae. **Golden chain.**

A variety with more silky leaves than the type and shorter racemes; native to southeastern Europe.

66962. *LIGUSTRUM COMPACTUM* Hook. f. and Thoms. Oleaceae. **Privet.**

A shrub 12 feet or less in height, with thick, narrowly oblong leaves 2 to 3 inches long. Native to Yunnan, China.

For previous introduction see No. 66581.

66963. *LILIUM POMPONIUM* L. Liliaceae. **Lily.**

A handsome graceful lily, native to the Alps of France and Italy, with 100 or more leaves and 1 to 15 flowers, brilliant scarlet, dotted purplish black, with an unpleasant odor.

66964. *ORNITHOGALUM LONGEBRACTEATUM* Jacq. Liliaceae.

A South African bulbous plant with five or six very narrow, fleshy leaves 1 to 2 feet long and a dense raceme of whitish flowers on a scape about 2 feet long.

66965. *PEONIA VEITCHII* Lynch. Ranunculaceae. **Peony.**

A herbaceous peony, native to western China, about 2 feet high, with shining light-green leaves and purplish crimson flowers about 4 inches across.

66966 to 66968. *SCILLA* spp. Liliaceae. **Squill.**

66966. *SCILLA AMOENA* L.

A hardy European bulbous plant with four to seven leaves 6 to 9 inches long and blue flowers in many-flowered racemes.

66967. *SCILLA AUTUMNALIS* L.

A hardy North African bulbous plant with numerous half-terete leaves and pink flowers in open spikelike racemes.

66968. *SCILLA HISPANICA* Mill. **Spanish squill.**

An attractive bulbous plant, native to Spain and Portugal, with compact racemes of rose-purple or white flowers on long scapes

66956 to 66969—Continued.

66969. *STYRAX OFFICINALIS* L. *Styracaceae*.
Snowbell.

A handsome shrub or low tree, 20 feet high, with hairy broadly oval leaves and numerous white flowers about three-fourths of an inch long, in small clusters. Native to Europe and Asia Minor.

66970 to 66974. *FRAGARIA* spp. *Rosaceae*. Strawberry.

From Vineland Station, Ontario, Canada. Plants presented by E. F. Palmer, Director, Horticultural Experiment Station. Received May 5, 1926.

66970. *FRAGARIA* sp.

Pocomoke. The medium to large berries are round-conic and bright crimson; the medium red, firm flesh is a brisk subacid of good quality. This variety produces numerous runners and closely resembles *Parsons*. Season medium late. (*Virginia Polytechnic Institute, Bul. 11.*)

66971. *FRAGARIA* sp.

Valonia. A cross between *Dunlap* and *Early Ozark*. It is a vigorous grower, with perfect flowers, and is productive. In season it is two or three days earlier than *Dunlap*. The fruits are of medium size, bright red, moderately firm, and fair to good in quality. (*The Canadian Horticulturist, vol. 47, No. 4.*)

For previous introduction see No. 63663.

66972. *FRAGARIA* sp.

Vanguard. A cross between *Pocomoke* and *Early Ozark*. The plants are vigorous, healthy, and productive, with perfect flowers. The ripening season is about a week before *Dunlap*. The fruits are of medium size, round-conic, regular in shape, bright red, firm and of good quality, being sweeter than most early varieties. (*The Canadian Horticulturist, vol. 47, No. 4.*)

For previous introduction see No. 63664.

66973. *FRAGARIA* sp.

Vantage. A cross between *Williams* and *Early Ozark*. This is described (Report of the Vineland Station to the Ontario Department of Agriculture for 1919) as a vigorous grower, with early maturing, bright-pink fruits which retain their color in storage. In quality this variety is fair.

For previous introduction see No. 63665.

66974. *FRAGARIA* sp.

Williams. A cross between *Crescent* and *Sharpless*. Berries large, round-conic to wedge-conic, dark crimson, often with white tip; flesh dark red, firm subacid and of good quality; runners numerous. Midseason variety. This has been a popular commercial variety in Canada, especially in southern Ontario, and it is still valued. (*Virginia Polytechnic Institute, Bul. 11.*)

66975 and 66976. *CHAYOTA EDULIS* Jacq. *Cucurbitaceae*. Chayote.

From San Juan, Porto Rico. Fruits presented by O. W. Barrett, agricultural director, Department of Agriculture and Labor. Received May 4, 1926.

66975. A green variety.

66976. A white variety.

66977. *TRICHOSANTHES BRACTEATA* (Lam.) Voigt. *Cucurbitaceae*.

From Solan Brewery, Simla, Punjab, India. Seeds presented by H. E. J. Peake, Khaltoo Orchards. Received April 30, 1926.

A stout annual ornamental vine climbing to 30 feet, with broadly oval leaves, scabrous above and deeply lobed; globose fruits, red streaked with orange. Native to India.

66978 to 66982.

From Capetown, South Africa. Bulbs purchased from W. S. Duke & Co. Received April 10, 1926.

A collection of South African bulbous plants.

66978. *AMARYLLIS BELLADONNA* L. *Amaryllidaceae*. Belladonna lily.66979. *AMARYLLIS BRUNSVIGIA* Hort. *Amaryllidaceae*.66980. *HAEMANTHUS COCCINEUS* L. *Amaryllidaceae*. Scarlet blood lily.

A low bulbous plant, native to South Africa, with the bulb compressed sidewise; there are two suberect strap-shaped leaves and red flowers on a scape 6 to 10 inches tall.

66981. *NERINE SARNIENSIS* (L.) Herbert. *Amaryllidaceae*. Guernsey lily.

A South African bulbous plant with bright-green linear leaves about a foot long, developed after the bright-crimson flowers; the latter are in umbels of about 12.

66982. *WATSONIA IRIDIFOLIA* (Jacq.) Ker. *Iridaceae*. White bugle lily.

Variety *Ardennii*. A South African plant closely resembling the gladiolus, with sword-shaped leaves and regular pure-white flowers in spikes on a scape 3 to 4 feet high.

66983 to 66994. *ORYZA SATIVA* L. *Poaceae*. Rice.

From Dacca, India. Seeds presented by the economic botanist to the Government of Bengal. Received May 3, 1926.

Indian rice varieties.

66983 to 66990. Selections of *Dacca*.

66983. No. 1.

66984. No. 2.

66985. No. 4.

66986. No. 5.

66987. No. 6.

66988. No. 9.

66989. No. 7.

66990. No. 15.

66991. No. 297. *Methiamon*. A deep-water variety.

66992. No. 507. *Chingair*. A deep-water variety.

66993. *Larkoch*.

66994. *Marich Bati*.

66995. HYDNOCARPUS ALPINA Wight.
Flacourtiaceae.

From St. Jean le Blanc, via Orleans, Loiret, France. Seeds presented by Edmond Versin. Received May 4, 1926.

Introduced for study because of its close relationship to *Tarakogenos kurzii*, the source of the genuine chaulmoogra oil.

A large tree, 70 to 100 feet in height, with very variable leaves (red when young and deep green when old), up to 7 inches long and $2\frac{1}{2}$ inches wide, and dioecious flowers in axillary racemes. The fruit is globose, about the size of an apple, with a brown hairy surface. The seeds yield an oil which is used as fuel, and the wood is employed for general carpentry. The tree is native to the Nilgiri Hills in southern India.

For previous introduction see No. 56445.

66996 to 66998. CHAYOTA EDULIS Jacq.
Cucurbitaceae. Chayote.

From Guatemala. Seeds presented by Wilson Popenoe, superintendent of agricultural experiments, United Fruit Co. Received May 7, 1926.

66996. A large green variety.

66997. A small green variety.

66998. A small white variety.

66999. ULMUS PUMILA L. Ulmaceae.
Chinese elm.

From Washington, D. C. Seeds collected by Paul Russell, Bureau of Plant Industry. Received May 4, 1926.

The tree from which these seeds were collected, in front of the District Building, is one of a lot presented to the Office of Public Buildings and Public Parks in May, 1908 (No. 40898). This is probably the first Chinese elm to produce seeds in this part of the United States.

67000 to 67018.

From Leningrad, Russia. Seeds presented by Dr. B. L. Issatschenko, director, botanic garden. Received May 4, 1926.

67000. ASTER YUNNANENSIS Franch. Asteraceae.

A herbaceous perennial from southwestern China with unusually large brilliant lilac-blue flowers with a yellow disk.

67001. CYNOGLOSSUM AMABILE Stapf and Drummond. Boraginaceae. Hound's-tongue.

A hardy Chinese biennial which produces a mass of bright-blue flowers.

67002. LIBERTIA GRANDIFLORA (R. Br.) Sweet. Iridaceae.

A tender bulbous plant, native to New Zealand, with rigid linear leaves 1 to $2\frac{1}{2}$ feet long and a large panicle of white flowers.

67003 to 67006. IRIS spp. Iridaceae.

67003. IRIS sp.

67004. IRIS RUTHENICA Ker.

A Chinese iris with tufts of linear leaves, about 6 inches long at flowering time, up to a foot long later. The outer segments of the violet-scented flowers are lilac, marked with bluish purple; the inner segments are deep purple-violet.

67005. IRIS ENSATA Thunb. Russian iris.

The Russian iris has leaves 1 to 3 feet long, and a flattened stem up to a foot in height, bearing a single head of bright blue or lilac flowers.

67000 to 67018—Continued.**67006. IRIS SETOSA Pall.**

Arctic iris.

According to Dykes (Iris, p. 64), this was originally described as an Asiatic plant, but forms that can not be separated from it are found in North America. At least half a dozen forms come true from seed. The peculiarity of this iris is that the standards have dwindled until they are only small points about half an inch long, but their disappearance is usually counterbalanced by the increased size of the falls. The color is usually blue, but some shades are so light as to be almost gray.

For previous introduction see No. 57297.

67007 to 67010. CREPIS spp. Cichoriaceae.**67007. CREPIS SIBERICA L.**

A perennial composite, 2 to 3 feet high, covered with short rough hairs, bearing a terminal cluster of bright-yellow flowers. Native to Asia Minor and the Himalayas.

For previous introduction see No. 66628.

67008. CREPIS RUBRA L.

An annual composite about a foot high with solitary red flowers. Native to southern Europe.

For previous introduction see No. 66522.

67009. CREPIS CAPILLARIS Wallr.

A more or less prostrate herbaceous plant, with much-branched stems and small flower heads. Native to southern Europe.

67010. CREPIS ALPESTRIS (Jacq.) Reichenb.

A perennial composite, native to southern Europe, with oblong or lanceolate leaves and yellow flower heads.

67011. HYACINTHUS PYCNANTHUS (Koch) Baker.
Liliaceae. Hyacinth.

A wild Armenian hyacinth with very narrow oblong leaves and small, dense racemes of azure-blue flowers with yellow anthers.

67012. MUSCARI PENDULUM Trautv. Liliaceae.
Grape hyacinth.

A narrow-leaved bulbous plant from Asia Minor, with dense racemes of sky-blue flowers.

67013. HEMEROCALLIS MINOR Mill. Liliaceae.
Dwarf day lily.

An attractive day lily from northeastern Asia, with narrow dark-green leaves about $1\frac{1}{2}$ feet long and golden-yellow flowers in few-flowered corymbs.

67014 to 67016. COLCHICUM spp. Melanthiaceae.
Autumn crocus.**67014. COLCHICUM UMBROSUM Stev.**

A low bulbous plant, native to the Caucasus, with about five narrow leaves and small clusters of lilac flowers.

67015 and 67016. COLCHICUM SPECIOSUM Stev.

67015. Variety *album*. A low bulbous plant with a stem about a foot high, four or five shining green leaves, and nearly white flowers, often 6 inches across. Native to the Caucasus.

67016. A bulbous plant, flowering in autumn, with large showy dark-rose flowers. The strong foliage appears in spring, but dies off in midsummer, and after some weeks of rest the flowers appear. (Note by Frank N. Meyer, under No. 27304.)

67000 to 67018—Continued.

67017. *IRIS APHYLLA* L. Iridaceae. Stool iris.

A European iris with glaucous leaves 6 to 12 inches long and dark-lilac flowers with white beards.

67018. *IRIS ACUTILOBA* Meyer. Iridaceae.

A wild iris, native to the Caucasus, with purple and fawn-colored flowers.

For previous introduction see No. 30581.

67019. *LITHOCARPUS CORNEA* (Lour.) Rehder. Fagaceae.

From Canton, China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 3, 1926.

No. 440. *Shek lut*. Purchased at the market, Canton, March 6, 1926. The original source is not definitely known, but probably was in the Chunwong Mountains, west of Tsinguen. This variety is said to appear on the Canton markets in small quantities at infrequent intervals, and the nuts are esteemed as an article of food. (McClure.)

67020 and 67021.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received April 30, 1926. Notes by Doctor Trabut.

67020. *DAUCUS CAROTA* L. Apiaceae. Carrot.

Collected in a Saharan oasis, March, 1926.

67021. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. Six-rowed barley.

A gray barley from a Saharan oasis, March, 1926.

67022 to 67066.

From Paris, France. Seeds presented by Vil-morin-Andrieux & Co. Received April 27, 1926.

67022. *ABIES HOMOLEPIS* Sieb. and Zucc. Pinaceae. Nikko fir.

A hardy fir, native to the mountains of central Japan, ultimately about 90 feet tall. The leaves are dark green, sharp pointed, and silvery white below; the stout dark-purple cones are 3 inches long.

67023. *ABIES HOMOLEPIS* Sieb. and Zucc. Pinaceae. Nikko fir.

67024. *AEGILOPS SPELTAEFORMIS* Jord. Poaceae. Grass.

An annual grass, a hybrid between *Triticum aestivum* and *T. aestivum* × *ovatum*.

67025. *ASTILBE CHINENSIS* Maxim. Saxifragaceae. Chinese astilbe.

Variety *pumila*. A dwarf form of the commonly cultivated herbaceous perennial.

67026. *CLEMATIS RECTA MANDSHURICA* (Rupr.) Maxim. Ranunculaceae.

Variety *feuille pourpre*. A tall slender herbaceous purple-leaved perennial with terminal and axillary panicles of pure white flowers. The typical form is native to Manchuria.

67027. *COLUTEA ISTRIA* Mill. (*C. halepica* Lam.). Fabaceae. Bladder senna.

A North African leguminous shrub about 6 feet high with small glaucous leaflets and yellow flowers nearly an inch long.

For previous introduction see No. 38210.

67022 to 67066—Continued.

67028 to 67030. *CYTISUS* spp. Fabaceae.

67028. *CYTISUS AUSTRIACUS VIRESCENS* Kov. Broom.

A low shrub, 1 or 2 feet high, with horizontal branches, gray-green leaflets, and bright-yellow flowers. Native to south-central Europe.

67029. *CYTISUS CILIATUS GRISENBACHI* C. Schneid. (*C. ponticus* Griseb.). Broom.

A yellow-flowered leguminous shrub, native to southeastern Europe, of variable habit and height.

67030. *CYTISUS SESSILIFOLIUS* L. Sessile broom.

A low shrub, 2 to 4 feet high, with erect branches, nearly sessile leaves, and short racemes of yellow flowers. Native to southern Europe.

67031. *HEMITELEA DAVIDII* (Hance) Planch. (*Zelkova davidii* Hemsl.). Ulmaceae.

A shrubby spiny elmlike tree, native to Chosen and northern China, which has merit as an ornamental tree because of its handsome dark-green foliage; the leaves are oval or oblong, deeply toothed, and about 2 inches long. Because of its spines, the tree may be useful for tall hedges.

For previous introduction see No. 63681.

67032. *ILEX PERNYI* Franch. Aquifoliaceae. Holly.

A dense-growing species of very dwarf compact habit, with small, spiny leaves and red berries, probably allied to *Ilex cornuta*, discovered by Pere Paul Perny during his travels in China between 1850 and 1860. (Veitch, *Hortus Veitchii*, under No. 34527.)

67033 to 67039. *IRIS* spp. Iridaceae. Iris.

67033. *IRIS CHRYSOGAPHES* Dykes. Goldvein iris.

One of the handsomest of the Siberian irises; the velvety dark-purple flowers are brightened by golden reticulations at the throat.

For previous introduction see No. 66575.

67034. *IRIS CLARKEI* Baker. Clarke iris.

A curiously local species native to a circumscribed area in the Sikkim and Bhutan region at a height of 6,000 to 11,000 feet in ground that is swampy half the year and frozen hard under snow during most of the remaining months. The narrow leaves, 2 feet long, droop at the tops; the upper surface is polished and shiny, the under side glaucous. The solid stem is 2 feet long and bears one or two lateral heads. The falls are blue purple, blotched with white, and are reflexed laterally. The upper part of the haft is marked with yellow. The reddish purple lanceolate standards are poised almost horizontally. The styles form the highest point of the flower; they are keeled, very convex, and 1½ inches long. (Dykes, *The Genus Iris*, p. 29.)

For previous introduction see No. 66464.

67035. *IRIS FISCHERIANA* Hort.

67036. *IRIS HALOPHILA* Pal.

A low-growing Siberian iris, 1 or 2 feet high, with pale-green leaves and spicate clusters of yellow flowers.

For previous introduction see No. 60343.

67022 to 67066—Continued.

67037. IRIS MUSULMANICA Fomin.

An iris from the vicinity of Elisabethopol, Caucasus, which, according to the Moniteur du Jardin Botanique de Tiflis (vol. 14, 1909), inhabits brackish swamps. It is less than 2 feet tall, and the flowers are either sky blue or yellowish.

For previous introduction see No. 64299.

67038. IRIS OCHAUREA Hort.

A hybrid between *Iris ochroleuca* and *I. aurea* about 5 feet high. The outer segments are rich yellow with a creamy border, and the inner segments are erect and yellowish.

67039. IRIS SPURIA DESERTORUM Ker.

A European iris, with firm linear, glaucescent leaves about a foot long and one to three spicate heads of flowers, which are pale lilac with the claws of the segments yellow.

For previous introduction see No. 40519.

67040. LIGUSTRUM DELAVAYANUM Hariot. Oleaceae. Privet.

An evergreen shrub about 6 feet high with long graceful branches and dark, shining-green oval leaves. The white flowers, borne in downy panicles, and the black fruits make the shrub very ornamental. It is native to the mountainous regions of Yunnan, China.

For previous introduction see No. 58613.

67041. LIGUSTRUM WALKERI Decaisne. Oleaceae. Privet.

An evergreen shrub native to southern India, with oval or lanceolate leaves and large panicles of white flowers.

67042. MELILOTUS ALBA Desr. Fabaceae. Hubam. Variety *annua*.

67043. MUSCARI HELDREICHII Boiss. Liliaceae. Grape hyacinth.

An early-flowering bulbous plant, native to Greece, with linear leaves and 8 to 10 amethyst flowers on a scape 4 to 6 inches long.

67044 to 67050. PAEONIA spp. Ranunculaceae. Peony.

67044. PAEONIA ARIETINA Anders.

A European herbaceous peony about 3 feet high, with five-lobed or six-lobed leaves and a large solitary dark-red flower.

67045. PAEONIA BAKERI Lynch.

A peony of unknown origin which, as described by R. Irwin Lynch (Journal of the Royal Horticultural Society, vol. 12, p. 441), has a spindle-shaped root, a stout red stem 2 feet high, about six biternate leaves, and deep-pink, single flowers 5 inches across.

67046. PAEONIA CORALLINA Retz. Coral peony.

A tall peony with carrotlike roots and purple flowers, rarely whitish or yellowish. Native to southern Europe.

For previous introduction see No. 30522.

67047. PAEONIA CORIACEA Boiss.

A Spanish peony, allied to *Paeonia albiflora*, with nearly unbranched, reddish stems, leathery leaves, and bright-crimson flowers.

For previous introduction see No. 62671.

67048. PAEONIA LUTEA Delavay. Golden peony.

A shrubby Chinese peony, with a short, woody stem 1 or 2 feet high, and deep-green,

67022 to 67066—Continued.

leathery, three-parted leaves, white beneath and about a foot in length. The golden yellow single or slightly double flowers are 2½ inches across.

For previous introduction see No. 62753.

67049. PAEONIA PEREGRINA Mill.

A herbaceous European peony about 2 feet high, with deep-green leaves, paler beneath, and dark-crimson flowers.

67050. PAEONIA TRITERNATA Pail.

A tall herbaceous peony with carrot-shaped roots which resembles *Paeonia coralina*, but differs in having rounded leaves, green stems, and rose-colored or whitish flowers. It is native to southeastern Europe.

For previous introduction see No. 64305.

67051. PYRACANTHA sp. Malaceae. Fire thorn.

An evergreen shrub from eastern Asia.

67052. ROSA ADIANTIFOLIA Hort. Rosaceae. Rose.

67053. ROSA DAVIDI ELONGATA Rehd. and Wils. Rosaceae. David rose.

A shrubby rose, 10 feet high, with scattered straight prickles and single pink flowers about 2 inches across, in corymbs.

67054. SKIMMIA FOREMANNII Hort. Rutaceae.

A densely branched evergreen shrub, a hybrid between *Skimmia fortunei* and *S. japonica*.

67055. SYRINGA TOMENTELLA Bur. and Franch. Oleaceae. Wilson lilac.

A bushy shrub about 8 feet high with elliptic leaves, hairy beneath, and white or lilac flowers in clusters ½ inches long. Native to western China.

67056 to 67060. TRITICUM spp. Poaceae. Grass.

67056 to 67058. TRITICUM CYLINDRICUM (Host.) Ces. Pas. and Gib.

67056. Received as *Aegilops bicornis*, but does not agree with that species.

67057. An ornamental annual grass with stiff, upright stems and narrow leaves. Native to dry sandy places in southern and southeastern Europe.

For previous introduction see No. 64067.

67058. Received as *Aegilops speltoides*, but does not agree with that species.

67059. TRITICUM TRIUNCIALE (L.) Gren. and Godr.

A thickly branched, annual grass with ascending stems and flat, rough leaves. Native to dry places in the Mediterranean region.

For previous introduction see No. 64099.

67060. TRITICUM VENTRICOSUM (Tausch) Ces. Pas. and Gib.

An annual grass, native to the Mediterranean region, with upright stems and panicles up to 8 inches long.

For previous introduction see No. 57072.

67061 and 67062. TRITOMA UVARIA (L.) Ker. Liliaceae. Torch lily.

67061. Variety *nobilis*. A variety having uniformly red flowers in short ovoid spikes.

67062. Variety *saunderii*. A variety with reddish orange flowers in elliptical spikes; the plant grows 4 to 6 feet high.

67022 to 67066—Continued.

67063. *VIBURNUM* spp. Caprifoliaceae.67063. *VIBURNUM HUPEHENSE* Rehder.
Hupei viburnum.

A fairly hardy deciduous shrubby species, allied to *Viburnum wrightii*, with coarsely toothed, long-pointed dark-green leaves, and ovoid dark-red fruits. Native to central China.

For previous introduction see No. 63687.

67064. *VIBURNUM THEIFERUM* Rehder.
Tea viburnum.

One of the more recent introductions from China made by E. H. Wilson, which is especially beautiful because of its brilliant red fruits. It is an upright shrub 4 meters high, with oval-oblong dark-green leaves.

For previous introduction see No. 62854.

67065. *VIBURNUM* sp.67068. *VICIA MICHAUXII* Spreng. Fabaceae.
Vetch.

A creeping or climbing annual vetch, native to Syria, with very narrow leaflets, light-yellow flowers, and hairy pods about an inch long.

For previous introduction see No. 59357.

67067 to 67087.

From Blackwood, South Australia. Seeds presented by Edwin Ashby. Received April 28, 1926.

67067. *BAECHEA PLATYCEPHALA* E. Pritz.
Myrtaceae.

A small densely branched shrub, 1 or 2 feet high, with thick erect leaves crowded at the ends of the branches and small white flowers in the upper axils. Native to Western Australia.

67068. *BEAUFORTIA MICRANTHA* Schauer.
Myrtaceae.

A small much-branched shrub, with opposite, triangular-oval, thick leaves and small pink flowers, the staminate in small round heads and the pistillate in oblong spikes. Native to Western Australia.

67069 to 67071. *CALOTHAMNUS* spp. Myrtaceae.67069. *CALOTHAMNUS ASPER* Turcz.

A hairy shrub, with crowded linear flat leaves and short dense clusters of flowers with crimson stamens. Native to Western Australia.

67070. *CALOTHAMNUS GILESH* F. Muell.

A stout hairy shrub native to Victoria, Australia, with terete linear leaves and loose clusters of flowers.

67071. *CALOTHAMNUS QUADRIFIDUS* Ait.

An erect shrub 7 feet high, with crowded linear leaves about an inch long and dense spikes of flowers which are conspicuous because of the rich crimson stamens. Native to Western Australia.

67072. *CANDOLLEA CUNEIFORMIS* Labill. *Candolleaceae*.

An erect evergreen shrub about 7 feet high, with thick wedge-shaped leaves and yellow flowers.

67073 to 67075. *KUNZEA* spp. Myrtaceae.67073. *KUNZEA RECURVA* Schauer.

A tall rigid shrub with rather narrow leaves and dense globular flower heads. Native to Western Australia.

67067 to 67087—Continued.

67074. *KUNZEA SPICATA* S. Moore.

A shrub native to Western Australia, with small, widely oval, leathery leaves about one-eighth of an inch long and small flowers in short spikes.

67075. *KUNZEA SULPHEURA* Hort.

A heathlike shrub, native to Australia.

67076. *LEPTOSPERMUM ROEI* Benth. *Myrtaceae*.

A hairy slender-branched Australian shrub with flat, silky white leaves nearly half an inch long and rather large, axillary white flowers.

67077 to 67086. *MELALEUCA* spp. *Myrtaceae*.67077. *MELALEUCA CORDATA* Benth.

A rigid red-flowered shrub from Western Australia. The numerous rounded leaves are about half an inch long, and the flowers are in dense globular terminal heads.

67078. *MELALEUCA CRASSIFOLIA* Benth.

A bushy shrub with scattered thick oblong leaves half an inch long and leafy spikes of pink or white flowers. Native to Western Australia.

67079. *MELALEUCA FULGENS* R. Br.

A tall shrub, native to Western Australia, with linear concave leaves and loose lateral spikes of large showy red flowers.

67080. *MELALEUCA HOLOSERICEA* Schauer.

A bushy shrub, about 3 feet high, with hairy branches and foliage, crowded linear leaves, and dense terminal heads of pink flowers. Native to Western Australia.

67081. *MELALEUCA LATERITIA* Otto and Dietr.

A medium-sized shrub with very narrow leaves and oblong spikes of large rich-scarlet flowers. Native to Western Australia.

67082. *MELALEUCA RADULA* Lindl.

A tall bushy shrub with opposite linear concave leaves up to 2 inches long and rather large pink or white flowers in pairs at the bases of the branchlets. Native to Western Australia.

67083. *MELALEUCA THYMOIDES* Labill.

A tall slender-branched shrub from Western Australia, with rigid, scattered leaves and dense terminal heads of yellowish white flowers.

67084. *MELALEUCA UNCINATA* R. Br.

A tall somewhat hairy Australian shrub with linear-subulate leaves an inch or two long and numerous small flowers in very dense terminal heads.

67085. *MELALEUCA VIOLACEA* Schauer.

A low spreading shrub, with the flowering branches often corky, and oval heart-shaped leaves. The purple-red flowers are either in terminal globular heads or in small axillary clusters. Native to Western Australia.

67086. *MELALEUCA WEBSTERI* S. Moore.

An Australian shrub with opposite, narrowly oblong thick leaves about one-third of an inch long and roundish heads of small white flowers.

67087. *ORTHOSANTHUS MULTIFLORUS* Sweet. *Iridaceae*.

An Australian irislike plant with a short perennial rhizome and flat grasslike radical leaves up to 2 feet in length. The blue flowers are in a several-flowered oblong spike borne on a stem 1 to 2 feet high.

67088. POA FLABELLATA (Lam.) Hook.
f. Poaceae. **Tussock grass.**

From the Falkland Islands. Seeds presented by Dr. A. W. Hill, Director, Royal Botanic Gardens, Kew, England. Received May 1, 1926.

According to Hogg (Vegetable Kingdom, p. 823), this is a coarse grass which grows on peaty soil near the sea in the Falkland Islands. It forms dense masses of stems which frequently rise to a height of from 4 to 6 feet, and the long tapering leaves hang gracefully over in curves, from 5 to 8 feet long and an inch wide at the base. The plant is much relished by cattle, being nutritious and containing saccharin. The inner portion of the stem, a little way above the root, is soft and crisp and flavored like a hazelnut; the inhabitants of the Falkland Islands are very fond of it. They also boil the young shoots and eat them like asparagus.

For previous introduction see No. 64210.

67089. SOLANUM TUBEROSUM L.
Solanaceae. **Potato.**

From Honolulu, Hawaii. Tuber presented by J. M. Westgate, Director, Hawaii Agricultural Experiment Station, through C. F. Clarke, Bureau of Plant Industry. Received May 12, 1926.

A strain of the *Hamakua* variety of potato which is a good yielder and a better keeper than the original *Hamakua*.

67090 to 67131. ORYZA SATIVA L. Po-
aceae. **Rice.**

From Sabour, India. Seeds presented by A. C. Dobbs, director of agriculture, Bihar and Orissa. Received May 3, 1926.

Locally developed strains.

67090 to 67111. From Bihar.

- 67090. *Bachi-Aman*.
- 67091. *Bachi (Kesharia-Katki)*.
- 67092. *Baitarni*.
- 67093. *Balam-Aman*.
- 67094. *Dudraj-Aman*.
- 67095. *Gokulsar-Aman*.
- 67096. *Hemcha*.
- 67097. *Hura*. Early Aman.
- 67098. *Kalam Barawa-Aman*.
- 67099. *Kalam-Aman*.
- 67100. *Kelasar*.
- 67101. *Kessore*.
- 67102. *Kughi-Aman*.
- 67103. *Mahdagar*.
- 67104. *Manesra*.
- 67105. *Mansura-Aman*.
- 67106. *Nagir-Aman*.
- 67107. *Pakhar-Aman*.
- 67108. *Selha*.
- 67109. *Sirhanti*.
- 67110. *Surgamani-Aman*.
- 67111. *Ujarka Bhoga*.

67112 to 67114. From Chota, Nagpur.

- 67112. *Katka*. Early.
- 67113. *Keshwarphul*. Late.
- 67114. *Tangmusra*. Medium.

67090 to 67131—Continued.

67115 to 67120. From Orissa.

- 67115. *Champanidhipal*.
- 67116. *Dalua*.
- 67117. *Poagi*.
- 67118. *Rakta Chandan*.
- 67119. *Ranga Kanthi*.
- 67120. *Saragada Bangi*.

67121 to 67125. Selected varieties from Chota, Nagpur.

- 67121. *Doranda*.
- 67122. *Tilasari*. Early.
- 67123. *Katka*.
- 67124. *Rais*.
- 67125. *Ramgarh*.

67126 to 67131. Selected varieties from Orissa.

- 67126. *Dahia*. Early Aman.
- 67127. *Cuttack No. 1*. Early Aman.
- 67128. *Cuttack No. 2*. Medium-late Aman.
- 67129. *Cuttack No. 3*. Late Aman.
- 67130. *Cuttack No. 4*. Late Aman.
- 67131. *Cuttack No. 6*. Late Aman.

67132. CITRUS GRANDIS (L.) Osbeck
(*C. decumana* Murr.). Rutaceae.
Grapefruit.

From China. Seeds collected by J. F. Rock, Arnold Arboretum, Jamaica Plain, Mass. Received May 4, 1926.

A wild grapefruit found in the dry arid district of southern Kansu, below Siku, at an altitude of 3,000 to 4,000 feet. The tree is 15 to 20 feet in height, and the fruit 5 to 6 inches in diameter, very juicy, but sour and full of seeds. (*Rock*.)

67133. ROTHIA INDICA (L.) Druce
(*R. trifoliata* DC.). Fabaceae.

From Peradeniya, Ceylon. Seeds presented by A. H. G. Alston, systematic botanist, Ceylon Department of Agriculture. Received May 8, 1926.

An annual leguminous plant, native to India, which, according to T. Petch (Tropical Agriculturist, December, 1924) is common in dry situations in Ceylon and because of its trailing habit should make a good cover plant.

67134. POA FLABELLATA (Lam.)
Hook. f. Poaceae. **Tussock grass.**

From Stanley, Falkland Islands. Seeds presented by the colonial secretary. Received May 10, 1926.

For previous introduction and description see No. 67088.

67135. FICUS ERECTA Thunb. Mor-
aceae. **Fig.**

From Hakojuoka, Japan. Seeds received May, 1926, at the Plant Introduction Garden, Chico, Calif., from Dr. Tyozaburo Tanaka, department of agriculture, Kyushu Imperial University, through Ira J. Condit, University of California, Berkeley, Calif.

An ornamental shrub or small tree, native to China, Japan, and the Himalayas, very variable in size, character of foliage, and degree of pubescence. The fruits are single or in pairs, globular or pear-shaped, and long-stalked or sessile.

**67136. CREPIS PRAEMORSA (L.)
Tausch. Cichoriaceae.**

From Zurich, Switzerland. Plants presented by Professor Chellung. Received May 14, 1926.

A perennial composite from the mountains of the Caucasus, with radical oval-oblong leaves and small yellow flower heads.

**67137. BERBERIS PARVIFOLIA Sprague.
Berberidaceae. Barberry.**

From San Francisco, Calif. Seeds presented by Eric Walther, superintendent of parks. Received May 12, 1926.

A low shrub from western China, with half-evergreen, occasionally spiny-toothed leaves, golden yellow flowers, and globose berries of a terra-cotta color.

**67138 to 67160. ORYZA SATIVA L. Po-
aceae. Rice.**

From Gurdaspur, India. Seeds presented by the director of the agricultural station. Received May 12, 1926.

Locally developed strains.

- 67138. No. 1. *Chipda*.
- 67139. No. 2. *Desi*.
- 67140. No. 3. *Chalaka*.
- 67141. No. 4. *Pandhori*.
- 67142. No. 5. *Basmati*.
- 67143. No. 6. *E. B. No. 17*.
- 67144. No. 7. *No. 17*.
- 67145. No. 8. *Santhi*.
- 67146. No. 9. *Ram Jawain*.
- 67147. No. 10. *Chahora*.
- 67148. No. 11. *Ziri*.
- 67149. No. 12. *Rattua*.
- 67150. No. 13. *Mushkan*.
- 67151. No. 14. *Jhona*.
- 67152. No. 15. *Begmi*.
- 67153. No. 16. *Toga*.
- 67154. No. 17. *Kaul*.
- 67155. No. 18. *Safed*.
- 67156. No. 19. *Hans Raj*.
- 67157. No. 20. *Bara*.
- 67158. No. 21. *Palman*.
- 67159. No. 22. *Sonpattar*.
- 67160. No. 23. *Son*.

**67161. ORYZA SATIVA L. Poaceae.
Rice.**

From Manila, Philippine Islands. Seeds presented by S. Youngberg, director, Bureau of Agriculture. Received May 14, 1926.

Pirurutong.

67162 to 67169.

From Brignoles, France. Seeds presented by Dr. R. Salgues, Director, Station Botanique de Brignoles. Received May 10, 1926.

67162 to 67169—Continued.**67162. ANTHYLIS TETRAPHYLLA L. Fabaceae.**

A creeping leguminous annual, with white flowers, native to the Mediterranean region.

**67163. ANTHYLIS VULNERARIA L. Fabaceae.
Kidney vetch.**

A perennial herb, found throughout Europe, northern Africa, and Asia, which is grown for sheep fodder and is particularly recommended for lime soils. In Norway it grows as far north as 70° F.

For previous introduction see No. 55376.

**67164. STATICE JUNCEA (Girard) Hubbard,
Plumbaginaceae.**

A low herbaceous perennial, with a rosette of linear leaves and small heads of pink flowers. Native to Europe.

**67165. CISTUS ALBIDUS L. Cistaceae.
White-leaf rockrose**

A low shrub about 4 feet high, with white hairy leaves and rosy flowers in small clusters. Native to southern Europe and northern Africa.

For previous introduction see No. 62244.

**67166. CLEMATIS VITALBA L. Ranunculaceae.
Traveler's-joy**

The common wild clematis of English hedges. It climbs up into the trees, covering them in July with its numerous panicles of greenish white, scented flowers. In winter its silky tufts adorn the hedgerows.

For previous introduction see No. 53661.

67167. INULA VISCOSA (L.) Ait. Asteraceae.

A yellow-flowered shrubby perennial about 18 inches high, native to southern Europe.

**67168. LINUM NARBONENSE L. Linaceae.
Narbonne flax.**

An attractive herbaceous perennial from southern Europe, with linear leaves and a graceful drooping habit; it is about 2 feet across and 18 inches high. The flowers, which appear throughout the summer, are arranged in a loose panicle with long pedicels. Each flower is 1½ inches across, bright azure blue, somewhat paler beneath, with white anthers and a white spot in the center of each flower.

For previous introduction see No. 49898.

**67169. PSORALEA BITUMINOSA L. Fabaceae.
Scurf pea.**

A herbaceous perennial legume, native to the Mediterranean countries, sometimes over 3 feet high; it emits a disagreeable odor from all parts of the plant. The leaves are trifoliate. The small, bluish flowers are in 10-flowered to 30-flowered heads.

For previous introduction see No. 65585.

**67170. TRIFOLIUM SQUARROSUM L.
Fabaceae. Clover.**

From Haina, Dominican Republic. Seeds presented by Dr. R. Ciferri, Director, Estación Nacional Agronómica. Received May 19, 1926.

An upright or ascending, robust annual, with branches up to 30 inches long; native to the Mediterranean countries. The pink or white flower heads are oval when young, becoming more elongated later.

For previous introduction see No. 63995.

67171. SOLANUM TUBEROSUM L.
Solanaceae. Potato.

From Mowbray, Launceston, Tasmania, Australia. Tubers presented by R. Kidd. Received May 14, 1926.

Gem of the South. Derived from the variety which for many years was the main crop and export potato of Tasmania, variously known as the "Tasmanian red-skinned," "Brown's River," "Derwent," and "Circular Head." It was the king of keepers among potatoes, carried splendidly in bulk, was a fair yielder, and a fine quality table potato. The berry containing the seed which produced the new variety was abnormally large. (Kidd.)

67172. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Leningrad, Russia. Seeds purchased from A. Kol, chief of the bureau of introduction, Institute of Applied Botany. Received May 19, 1926.

For previous introduction and description see No. 66793.

67173. CASTANEA HENRYI (Skan) Rehd.
and Wils. Fagaceae. Chestnut.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry, Received January 25, 1926. Numbered June, 1926.

No. 255. November 23, 1925. *Kwai lam yui*. Purchased in Wuchow, Kwongsai, and said to have originally come from Lwallam, Kwongsai, where this variety is extensively cultivated. The nuts, with sweet tender flesh, are said to be inclosed in a 1-seeded spiny bur, like that of the chestnut, but smaller. The nuts do not dry out and lose their viability so quickly as those of the Chinese chestnut, *Castanea mollissima* Blume. The endosperm is densely covered with long, silky hairs. The nuts are widely sold in Kwantung and Kwongsai and are highly esteemed by the Chinese as an article of diet.

67174 to 67190.

From Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 14, 1926.

67174 to 67181. From the Sibolangit Botanic Garden, which is on the east coast near Medan.

67174. ADENIA MACROPHYLLA Hort. Passifloraceae.

No. 501. February 26, 1926. A vine bearing beautiful scarlet fruits which split open into three segments and exhibit seeds covered with a white arillus; not edible but very ornamental.

67175. ALANGIUM CHINENSE (Lour.) Rehder (*Marlea begoniaefolia* Roxb.). Cornaceae.

No. 400. February 24, 1926. Var. *tomentosum*. This Indian tree makes a remarkably rapid growth, reaching its full height of 50 feet in five years after which the trunk merely thickens. It is being planted in Sumatra for its timber.

67176. AMOMUM sp. Zinziberaceae.

No. 505. February 25, 1926. A plant of gorgeous foliage for the irrigated gardens in southern Florida, Panama, and Hawaii.

67177. SAGUERUS LANGKAB Blume (*Arenga obtusifolia* Mart.). Phoenicaceae. Palm.

No. 448. February 26, 1926. A handsome palm related to the sugar palm (*Arenga saccharifera*) of Malaya, but smaller in size and having larger fruits.

67174 to 67190—Continued.

67178. SAGUERUS PINNATUS Wurm (*Arenga saccharifera* Labill.). Phoenicaceae. Sugar palm.

No. 441. February 24, 1926. A handsome though rather untidy palm with immense leaves and tremendous bunches of fruit. A rich-flavored palm sugar is made from the sap which flows from the bruised fruit stalk.

For previous introduction see No. 47527.

67179. DAEMONOROPS DRACO (Willd.) Blume (*Calamus draco* Willd.). Phoenicaceae. Palm.

No. 439. February 24, 1926. A handsome climbing palm, with recurved spines, producing ornamental fruits the size of marbles. This is the rattan palm whose fruits furnish the substance known as *dragon's blood* and is different from that produced by *Dracena draco*.

67180. CLERODENDRUM SUMATRANUM Hort. Verbenaceae.

No. 405. February 24, 1926. A showy ornamental with large panicles of flowers and brilliant-blue fruits which are in striking contrast with the bright-red corollas.

67181. GRAMMATOPHYLLUM SPECIOSUM Blume. Orchidaceae. Orchid.

No. 447. February 26, 1926. The "queen of the orchids." A giant species having stems 6 to 10 feet long and flower clusters 6 feet long. The flowers are 6 inches in diameter and are yellow, blotched with deep purple.

67182. ERYTHRINA sp. Fabaceae. Coral tree.

No. 431. Sabang, Pulu We Island, northern coast of Sumatra. February 17, 1926. The tree is spiny, 40 feet high, and a rapid grower. The large, deep-crimson flowers, produced when the tree is without leaves, make a wonderful showing.

67183. MANGIFERA INDICA L. Anacardiaceae. Mango.

No. 535. March 3, 1926. A huge mango tree, producing yellow fruits, which is growing on the shore of Lake Tawar, near Takengon. The tree is 100 feet tall and has a girth of nearly 14 feet.

67184. MUSA sp. Musaceae. Banana.

No. 549. On the road between Takengon and Blasun. March 6, 1926. The tree is not over 18 to 20 feet high, and it has a very dark trunk. It is found wild in virgin forest at an altitude of 3,000 feet. The fruits are small and contain many seeds.

67185. HERNANDIA SONORA L. Hernandiaceae.

No. 422. Sabang, Pulu We Island, northern coast of Sumatra. February 17, 1926. A soft-wooded large tree with rather thin broad leaves and masses of very interesting curiously shaped fruits. The black seed hangs in the center of a large white translucent inverted bell-shaped covering. Through a hole in the bottom of this covering is seen the black fruit. This tree grows close to the beach where it is hit by the salt spray.

67186. ACTINORHYZIS CALAPPARIA Wendl. and Drude. Phoenicaceae. Palm.

No. 446. From the Sibolangit Botanic Garden. February 25, 1926. A tall stout pinnate-leaved palm, about 40 feet high, with a ringed trunk and leaves about 8 feet long. Native to the Malay Archipelago.

67187. PTYCHOSPERMA sp. Phoenicaceae. Palm.

No. 452. From the experiment station, Medan. February 20, 1926.

67174 to 67190—Continued.

67183. (Undetermined.)

No. 478. Collected near Takengon, March 5, 1926. A beautiful foliage plant with red flower heads, 4 inches across, at the base of leaves which rise from the ground to a height of 3 feet; excellent for moist places.

67189. ARECA sp. *Phoenixaceae*. Palm.

No. 541. From Takengon, at an altitude of 3,000 feet. March 2, 1926. A slender, very decorative, pinnate palm, 12 feet high.

67190. CORYPHA sp. *Phoenixaceae*. Palm.

No. 670. Collected northwest of Lho Semawe on the road to Bireun, March 12, 1926. The native name is *Tboh*. This tree resembles the Talipot palm in that the tree dies when the terminal inflorescence flowers. It is smaller than the Talipot with the trunk often twisted.

67191 to 67227. ORYZA SATIVA L. Po-
aceae. Rice.

From Cawnpore, United Provinces, India. Seeds purchased from the deputy director of agriculture. Received May 13, 1926.

Locally developed varieties.

67191. *Nankia*. A late variety sown in Safipur Tansil, Unao district.67192. *Badal Phooi*. An early variety sown in Safipur Tansil, Unao district.67193. *Badar Phuha*. From Kudwa. A variety sown during May in the Cawnpore district, later transplanted, and harvested in September.67194. *Bagdi*. From Bhodras. A variety sown during May in the Cawnpore district, later transplanted, and harvested in October.67195. *Bakki*. A variety, which is a good yielder, from the Unao district, sown in June, transplanted in July, and harvested the first part of November.67196. *Bansi*. An early variety sown in Safipur Tansil, Unao district.67197. *Banspati*. A good yielder from the Unao district which is sown during June, transplanted in July, and harvested in October.67198. *Batsa*. An early variety sown in Safipur Tansil, Unao district.67199. *Bindia*. From Phuphuar. A variety sown in the Cawnpore district during May, later transplanted, and harvested in November.67200. *Bendia*. From Parsauli. A variety sown in the Cawnpore district during May, later transplanted, and harvested in November.67201. *Dudhia*. An early variety sown in Safipur Tansil, Unao district.67202. *Sujidana*. From Laukana. A variety sown in the Cawnpore district during May, later transplanted, and harvested in October.67203. *Gaurahva*. From Parsauli. A variety grown in the Cawnpore district during May, later transplanted, and harvested in November.67204. *Ghaghrapari Bakka*. A variety from the Unao district sown during July and harvested in October.67205. *Hansraj*. A late variety sown in Safipur Tansil, Unao district.67206. *Harkis*. From the Unao district. Sown in July and harvested in September.67207. *Jalsaim*. A late variety sown in Safipur Tansil, Unao district.

67191 to 67227—Continued.

67208. *Jardhana*. An early variety sown in Safipur Tansil, Unao district.67209. *Jardhon*. From Oria. A variety sown in the Cawnpore district in May, later transplanted, and harvested in October.67210. *Jardhana*. From Unao district. Sown in July and harvested in September.67211. *Jarithwa*. A late variety sown in Safipur Tansil, Unao district.67212. *Kalluwa*. From the Unao district. A good yielder sown in June, transplanted in July, and harvested in October.67213. *Lalli*. An early variety sown in Safipur Tansil, Unao district.67214. *Ram Bhagwa*. An early variety sown in Safipur Tansil, Unao district.67215. *Rambhagwa*. A good yielder from the Unao district. Sown in June, transplanted in July, and harvested in the first part of November.67216. *Saidha*. An early variety sown in Safipur Tansil, Unao district.67217. *Sambhalu*. From Oria. A variety sown in the Cawnpore district in May, later transplanted, and harvested in October.67218. *Sambhalu*. From Parsauli. A variety sown in the Cawnpore district in May, later transplanted, and harvested in September or October.67219. *Sumbhra*. From Phuphuar. A variety sown in May in the Cawnpore district, later transplanted, and harvested in November.67220. *Sammaluwa*. From the Unao district. A good yielder sown in July and harvested the first part of September.67221. *Sathi*. An early variety sown in Safipur Tansil, Unao district.67222. *Sathi* or *Sathia* (Black). From Parsauli. A variety sown with the rains in June in the Cawnpore district and harvested early in September.67223. *Shyam Zira*. A late variety sown in Safipur Tansil, Unao district.67224. *Shiamjira*. From Kudwa. A variety sown in the Cawnpore district in May, later transplanted and harvested in October.67225. *Suhari*. A late variety sown in Safipur Tansil, Unao district.67226. *Sondhi*. From Jahangirabad. A variety sown in the Cawnpore district with the June rains and harvested in October.67227. *Uswas*. A late variety sown in Safipur Tansil, Unao district.67228. NYPA FRUTICANS Wurm-
b. *Phoenixaceae*. Nipa palm.

From Sibolangit, Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 20, 1926.

The nipa palm is one of the handsomest as well as most useful palms of the Malayan region. It grows in the brackish and quite salty waters on the coasts everywhere. (Fairchild.) According to Brown and Merrill (Philippine Palms and Palm Products, p. 98), the nipa palm has a stout, creeping underground stem, and the pinnate leaves, which are in erect clusters, are 7 meters or more in length. The flat fruits, 5 inches long, 4 inches wide, and 2 inches thick, are crowded in a large, round head which is borne on a special erect stalk. The juice obtained by cutting this stalk just below the fruiting head is a very promising source of sugar and alcohol. The leaves are extensively used for thatching and for making baskets and mats.

For previous introduction see No. 57940.

67229. GOSSYPIUM OBTUSIFOLIUM
Roxb. Malvaceae. Cotton.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut, Government botanist, through T. H. Kearney, Bureau of Plant Industry. Received May 18, 1926.

Collected in the Gourara, northwestern Sahara, where it is cultivated by the natives. (*Trabut*.)

For previous introduction see No. 45326.

67230 and 67231. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Dr. Gonzalo M. Fortun, Director Estación Experimental Agronómica, through E. W. Brandes, Bureau of Plant Industry. Received May 24, 1926.

67230. *C. 281*. Imported at the Estación Experimental Agronómica as a promising cane free from the mosaic disease.

67231. *P. R. 492*.

67232. EUPHRASIA OFFICINALIS L.
Scrophulariaceae.

From Paris, France. Seeds presented by Prof. D. Bois, Paris Museum of Natural History. Received May 22, 1926.

A low annual which grows in damp places throughout Europe. The axillary flowers have a lilac corolla with a yellow throat.

67233. GOSSYPIUM sp. Malvaceae.
Cotton.

From Sumatra. Seeds collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 14, 1926.

No. 498. March 9, 1926. A tree kidney cotton, native to northern Sumatra, on the northwest shore of Lake Tawar, near Takengon. These seeds are from an old tree which was growing in the dooryard of a Gayoe. The stems are 4 inches through and 12 to 14 feet high.

67234. GOSSYPIUM TOMENTOSUM Nutt.
Malvaceae. Cotton.

From Honolulu, Hawaii. Seeds presented by J. M. Westgate, Director, Hawaii Agricultural Experiment Station. Received May 17, 1926.

Mao or *Hula Hula* cotton. Plant softly pubescent; lint reddish brown.

67235. ANEMONE ALBA Hort. Ranunculaceae.

From Ottawa, Canada. Seeds presented by J. Adams, botanist, Central Experimental Farm. Received April 23, 1926.

A form of the Japanese anemone with large white flowers.

67236. CASSIA OCCIDENTALIS L. Caesalpiniaceae.

From Ibadan, Nigeria, Africa. Seeds presented by O. T. Faulkner, director, Agricultural Department. Received May 21, 1926.

A commonly cultivated tropical leguminous annual, herbaceous or somewhat shrubby; the seeds are sometimes used as a coffee substitute.

67237. ORNITHOGALUM LACTEUM Jacq.
Liliaceae. Star-of-Bethlehem

From Mowbray, Cape Town, South Africa. Seeds purchased from C. Starks & Co. Received May 22, 1926.

A bulbous plant from the Cape of Good Hope, with about 10 fleshy basal leaves and white flowers in a large, dense raceme on a stout stem 1 or 2 feet long.

67238 to 67256. ORYZA SATIVA L. Poaceae. Rice.

From Poona, India. Seeds presented by the director of the agricultural college station. Received May 22, 1926.

67238. *Ambemohor Kala*.

67239. *Anter Sal*.

67240. *Bangali*.

67241. *Dhanya*.

67242. *Early Mugad*.

67243. *Gajaweli*.

67244. *Halwi Patni*.

67245. *Jirasal*.

67246. *Kada*.

67247. *Kamond*.

67248. *No. 42. Kolamba*.

67249. *No. 79. Kolamba*.

67250. *No. 153. Kolamba*.

67251. *No. 184. Kolamba*.

67252. *No. 241. Kolamba*.

67253. *Kolum*.

67254. *No. 37. Patni K. O.*

67255. *Sutar Sal*.

67256. *Wak Sal*.

67257 to 67292.

From Jerusalem, Palestine. Seeds obtained by Prof. W. L. Jepson, collaborator, Bureau of Plant Industry. Received May 11, 1926.

67257. ASTRAGALUS BRACHY CERAS Ledeb. Fabaceae.

No. 10961. An annual legume, about 14 inches high, native to Syria.

67258 and 67259. CALENDULA spp. Asteraceae.

Herbaceous annuals, native to Syria, to be grown to ascertain their horticultural value.

67258. *CALENDULA* sp.

No. 10943.

67259. *CALENDULA* sp.

No. 10948.

67260 and 67261. Cicer ARIETINUM L. Fabaceae. Chick pea.

67260. No. 10793.

67261. No. 10792.

67262. CITRULLUS VULGARIS Schrad. Cucurbitaceae. Watermelon.

No. 10791.

67257 to 67292—Continued.

67263. *CORYLUS* sp. Betulaceae. Hazelnut.
No. 10796.

67264. *CUCURBITA PEPO* L. Cucurbitaceae. Pumpkin.
No. 10798.

67265. *CYAMOPSIS TETRAGONOLOBA* (L.) Taub. (C. *psoraloides* DC.). Fabaceae. Guar.

No. 10960. An erect leguminous annual, about 4 feet high, grown in eastern Asia as green forage and for the seeds, which are used as human food and also to fatten cattle.

67266. *HIPPOCREPIS MULTISILIQUOSA* L. Fabaceae.

No. 10959. An annual legume, 18 inches high, with odd-pinnate leaves and yellow flowers. Native to Syria.

67267. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

No. 10787.

67268. *LATHYRUS SATIVUS* L. Fabaceae. Bitter vetch.
No. 10978.

67269. *LATHYRUS* sp. Fabaceae.
No. 10971.

67270. *LENTILLA LENS* (L.) W. F. Wight (*Lens esculenta* Moench). Fabaceae. Lentil.
No. 10789.

67271. *LOTUS TETRAGONOLOBUS* L. Fabaceae.
No. 10957. A purple-flowered annual legume, native to the Mediterranean countries.

67272. *LOTUS* sp. Fabaceae.
No. 10964.

67273. *LUPINUS TERMIS* Forsk. Fabaceae. Lupine.

No. 10797. An annual legume, about 2 feet high, with bluish white flowers, native to Syria.

For previous introduction see No. 52172.

67274. *CIRCINNUS CIRCINATUS* (L.) Kuntze. Fabaceae.

No. 10969. A legume, about 1 foot high, native to the Mediterranean countries.

67275 and 67276. *MEDICAGO MURICATA* (L.) All. Fabaceae.

An annual European leguminous plant, about a foot high.

67275. No. 10950. 67276. No. 10966.

67277. *MELILOTUS SULCATA* Desf. Fabaceae.

No. 10954. An erect annual leguminous plant, with racemes of yellow flowers. Native to Syria.

For previous introduction see No. 43597.

67278. *MESEMBRYANTHEMUM* sp. Aizoaceae.
No. 10962.

67279 and 67280. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.

67279. No. 10790. 67280. No. 10973.

67281 and 67282. *PISUM SATIVUM* L. Fabaceae. Pea.

67281. No. 10951. 67282. No. 10965.

67283. *SCORPIURUS* sp. Fabaceae.

No. 10963. Annual leguminous herb with curiously twisted pods.

67257 to 67292—Continued.

67284 to 67286. *TRIFOLIUM ALEXANDRINUM* L. Fabaceae. Berseem.

67284. No. 10974. 67286. No. 10976.

67285. No. 10975.

67287. *TRIFOLIUM* sp. Fabaceae.
No. 10945.

67288 and 67289. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceae. Fenugreek.

67288. No. 10792. 67289. No. 10977.

67290. *VICIA ERVILIA* (L.) Willd. Fabaceae. Vetch.

No. 10786. An annual vetch up to a foot and a half high, cultivated in Syria for fodder.

67291. *VICIA FABA* L. Fabaceae. Broadbean.
No. 10799.

67292. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

No. 10788.

67293. *ASTREBLA LAPPACEA* (Lindl.) Domin. Poaceae. Mitchell grass.

From Queensland, Australia. Seeds obtained from the botanical gardens, Brisbane, through J. E. W. Tracy, Bristol, Pa. Received May 25, 1926.

A strong-growing somewhat wiry perennial grass found in stiff clayey soil. Its flowering spikes, resembling heads of wheat, are said to have highly fattening qualities and are readily eaten by stock. Native to South Australia, New South Wales, and Queensland.

For previous introduction see No. 50341.

67294. *MALUS SYLVESTRIS* Mill. (*Pyrus malus* L.). Malaceae. Apple.

From Dublin, Irish Free State. Seeds presented by Dr. Augustine Henry, College of Science for Ireland. Received May 25, 1926.

Var. *acerba*. A wild apple of Ireland which is not in cultivation in the United States. It is valuable as a pollen parent in apple orchards. (Henry.)

67295 to 67312.

From Leningrad, Russia. Seeds presented by A. Kol, chief of the bureau of introduction, Institute of Applied Botany. Received May 21, 1926. Notes by Mr. Kol.

Originally from Tchardjony, Turkmenistan, unless otherwise stated.

67295. *ALLIUM CEPA* L. Liliaceae. Onion.

A very good yielder, adapted to sandy soils; white and violet.

67296. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

An unnamed variety from Farab, Turkmenistan.

67297 to 67303. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

67297. No. 1. *Tarandjony*. A very sweet, white-fleshed variety.

67298. No. 2. *Ak-Koun*. An early summer variety with very sweet white flesh.

67299. No. 3. *Ksoul-Koun*. A summer melon with red flesh and pale-yellow skin.

67300. No. 4. *Deikhany-Zarny*. A very sweet orange-fleshed variety with yellowish skin.

67295 to 67312—Continued.

67301. No. 5. *Bischeck*. An early summer variety with very sweet white flesh and yellow skin.

67302. No. 6. *Kara-Kotour*. A round melon, a winter variety, with white flesh and yellow skin.

67303. No. 7. *Magassare*. A dark-skinned variety with white flesh of a rich sugary flavor.

67304. No. 8. *Kostjanka*. A variety cultivated at the experiment fields of the Emba Oil Co., near the Caspian Sea.

67305. No. 9. *Logara-Kouk*. A summer melon with greenish flesh and dark-green skin.

67306. No. 10. *Gouliabi*. A winter variety.

67307. No. 11. *Eneyry*. A summer variety with pale-yellow skin and green flesh.

67308. *Emiry*. From the Emba Experiment Station near the Caspian Sea.

67309 to 67311. *CUCURBITA* spp. Cucurbitaceae.

67309. *CUCURBITA MAXIMA* Duchesne. Squash.
Selle-Kiady.

67310. *CUCURBITA MOSCHATA* Duchesne. Cushaw.
Plor-Kiady. From Farab, Turkmenistan.

67311. *CUCURBITA PEPO* L. Pumpkin.
Nan-Kiady.

67312. *DAUCUS CAROTA* L. Apiaceae. Carrot.

From the Amu-Darya River district, Tchardjony, Turkmenistan. A pale-yellow variety with roots, when fully grown, measuring 7 to 11 inches in length.

67313. *DIALIUM GUINEENSE* Willd. Caesalpiniaceae. Velvet tamarind.

From the Gold Coast, West Africa. Seeds intercepted at Philadelphia, Pa., by the Federal Horticultural Board. Received May 24, 1926.

A tall pinnate-leaved tree, native to West Africa, with small, dark-brown, velvety, edible fruits which are in large clusters. The fruits are about the size of small filberts, and the thin, brittle shell incloses one or two seeds surrounded by a mildly acid farinaceous pulp, used in the preparation of pickles and in other ways. The timber is a handsome dark red.

67314 to 67343.

From Dookie P. O., Victoria, Australia. Seeds presented by Hugh Pye, Dookie Agricultural College. Received May 14, 1926.

This district is a relatively good one, with an average rainfall of 20 inches. The summers and autumns are usually dry, but the winter and spring rains are good, hence wheat succeeds well. The highest temperature is 108° F. and the lowest, July, 37° F. The air is low in humidity.

67314. *AVENA BYZANTINA* Koch. Poaceae.
Oats.
Dookie No. 11.

67315. *HORDEUM DISTICHON* PALMELLA Harlan. Poaceae. Two-rowed barley.
Pryor.

67316. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. Six-rowed barley.
Cape Early.

67314 to 67343—Continued.

67317 to 67343. *TRITICUM* spp. Poaceae.

67317 to 67333. *TRITICUM AESTIVUM* L. Common wheat.
(*T. vulgare* Vill.).

67317. *Austarn*.

67318. *Bald Early*.

67319. *Bena*. One of the new wheats becoming popular.

67320. *Clarendon Early*.

67321. *College Purple*.

67322. *Curramin*.

67323. *Darts Imperial*.

67324. *Federation*. The most popular variety of the State. Last season 40 bushels per acre were threshed from this variety. Generally speaking, it gives a better yield than *Hard Federation*.

67325. *Gerating*.

67326. *Glucub*.

67327. *Hard Federation*. A selection from *Federation*, but its flour is strong. Last season 50 bushels per acre were threshed from this variety.

67328. *Improved Gluyas*.

67329. *Indcret*. A rust-resistant variety which yields well in the North and South.

67330. *Joffre*. A rust-resistant variety which yields well in the North and South.

67331. *Major*. The second most popular variety of the State. It has strong straw and is less liable to rust than *Federation*. In the South or cooler parts it gives big yields and has done well in New Zealand.

67332. *Minister*. The champion high-strength wheat of the State and the most prolific of the high-strength varieties grown here.

67333. *Moir*.

67334. *Nabawa*.

67335. *Nobby*. A bald durum type which is really a cross with a bald common wheat.

67336. *Unuyip*.

67337. *Wardfir*.

67338. *Yanward*.

67339 to 67342. *TRITICUM DURUM* Desf. Poaceae. Durum wheat.

67339. *Dookie Hasta*. This variety has multiple ears produced mainly by selection.

67340. *Dookie Marvel*. A variety having multiple ears produced mainly by selection.

67341. *Huguenot*. A bald durum type which is really a cross with a bald common wheat. In a few places it is grown for silage.

67342. *Laidly Poulard*.

67343. *TRITICUM POLONICUM* L. Poaceae. Polish wheat.

Australian Poulard.

67344 to 67376.

From Cambridge, England. Seeds presented by H. G. Carter, Director, Cambridge Botanic Garden. Received May 12, 1926.

67344. *ALLIUM NARCISSIFLORUM* Vill. Liliaceae.
Onion.

An elegant Italian species, about 9 inches high, with nodding heads of beautiful rose-colored flowers.

For previous introduction see No. 58682.

67345. *ARISTEA AFRICANA* (L.) Hoffmannsegg (*A. cyanea* Ait.). Iridaceae.

A dwarf, irislike plant from the Cape of Good Hope, with spikes of short-lived blue flowers.

67346. *ASTER FARRERI* Hort.

A herbaceous perennial about a foot high, with handsome flowers. The narrow ray flowers are rich velvet, and the disk is reddish orange.

67347 to 67349. *BERBERIS* spp. Berberidaceae.

67347. *BERBERIS CHITRIA* D. Don. Barberry.

A spiny shrub, 6 feet or less high, with oblong leaves 1 to 3 inches long, deep-yellow or reddish flowers in long-stemmed panicles, and ovoid, purple berries. Native to the Himalayas.

67348. *BERBERIS EMPETRIFOLIA* Pers.
Crow barberry.

A low densely branched barberry, 1 or 2 feet high, with linear, bright-green leaves and bluish black fruits. Native to southern South America.

For previous introduction see No. 35923.

67349. *BERBERIS STENOPHYLLA* Lindl.
Rosemary barberry.

A hybrid between *Berberis darwinii* and *B. empetrifolia* which first appeared, according to Bean (Trees and Shrubs Hardy in the British Isles, vol. 1), in the nursery of Fisher and Holmes, near Sheffield, England, several years ago. As described by Bean it is an evergreen bush about 10 feet high, which forms a dense thicket of slender interlacing stems. The small deep-green leaves are spine tipped, and the small golden-yellow flowers are profusely borne in small clusters. The globular fruits are covered with a blue-white bloom.

For previous introduction see No. 65240.

67350. *CISTUS VILLOSUS* L. Cistaceae. Rockrose.

An erect hairy shrub, 3 to 4 feet high, with wrinkled, gray-green leaves and one to three reddish flowers about 2 inches wide. Native to the Mediterranean region.

67351. *CYNOGLOSSUM AMABILE* Stapf and Drummond. Boraginaceae.

Hound's-tongue.

For previous introduction and description see No. 67001.

67352 to 67355. *CYTISUS* spp. Fabaceae. Broom.

67352. *CYTISUS BIFLORUS* L'Herit.

A leguminous shrub 3 feet high, with slender branches and leaflets with silky lower surfaces. The yellow flowers are single or in pairs. Native to Europe and western Asia.

For previous introduction see No. 66557.

67353. *CYTISUS MONSPESSULANUS* L. Broom.

A leguminous shrub about 10 feet high, with fragrant bright-yellow flowers in small racemes. Native to the Canary Islands.

67344 to 67376—Continued.

67354. *CYTISUS PURGANS* (L.) Spach.
Province broom.

A yellow-flowered leguminous shrub about 3 feet high. Native to southern France and Spain.

67355. *CYTISUS PURPUREUS* Scop.

An erect or procumbent shrub, 2 feet or less in height, with one to three purple flowers and black pods. Native to southern Europe.

67356. *DAHLIA MERCKII* Lehm. Asteraceae.

A single-flowered dahlia, 2 to 3 feet high, with bipinnate leaves and flowers typically lilac color.

For previous introduction see No. 47552.

67357. *ELSHOLTZIA STAUNTONI* Benth. Men-
thaceae.

A shrubby perennial 2 to 5 feet high, with bright-green oblong leaves and dense one-sided spikes of purple-lilac flowers. Native to northern China.

For previous introduction see No. 38819.

67358. *GENISTA RADIATA* (L.) Scop. Fabaceae.
Broom.

A rigid erect yellow-flowered leguminous shrub with oval silky pods. Native to south-eastern Europe.

67359. *GENISTA SAGITTALIS* (L.) Fabaceae.
Broom.

A dwarf procumbent leguminous shrub with ascending or erect branches, hairy oval leaves, and short terminal racemes of yellow flowers. Native to Europe and western Asia.

67360. *HERMODACTYLUS TUBEROSUS* (L.) Mill.
Iridaceae.

A hardy irislike plant, native to southern Europe, with glaucous four-angled stems, 1 or 2 feet long, and black-purple solitary flowers.

67361 to 67363. *ILEX* spp. Aquifoliaceae. Holly.

67361. *ILEX INTEGRA* Thunb.

An evergreen Japanese shrub or tree, up to 40 feet in height, with oval or oblong, usually entire leaves 2 to 3 inches long and globular or ovoid red berries.

67362. *ILEX LATIFOLIA* Thunb.

A Japanese holly, one of the most attractive of the genus, which sometimes develops into a tree 60 feet tall. The glossy green leaves, 3 to 7 inches long, are oval or narrowly oblong, and the red berries, about one-third of an inch in diameter, are produced in dense clusters.

For previous introduction see No. 59391.

67363. *ILEX SIKKIMENSIS* Kurz.

A Himalayan holly described by Kurz (Journal of the Asiatic Society of Bengal, vol. 44, pt. 2) as a moderately tall tree with stout branches, broadly oblong leathery leaves 5 or 6 inches long, and globular yellow berries.

For previous introduction see No. 62810.

67364 to 67366. *IRIS* spp. Iridaceae.

67364. *IRIS BULLEYANA* Dykes.
Hollow-stem iris.

An iris from western China which, as described by Dykes (The Genus Iris, p. 30), resembles *Iris clarkei*, having a hollow unbranched stem. The narrow leaves are glossy above and glaucous beneath. The stem, 15

67344 to 67376—Continued.

to 18 inches long, bears a single head of one to two flowers. The falls have a greenish yellow oblong haft, veined and dotted with purple. On the obovate blade the coloring becomes clearer and consists of broken veins and blotches of bright blue purple on a creamy ground. The extremity is a uniform blue purple paler at the edges. The oblanceolate, channeled standards are pale blue purple with deeper veins and diverge at an angle of about 60 degrees. The keeled, dark-purple styles are held high above the falls.

For previous introduction see No. 66463.

67365. IRIS MILESH Baker. Himalayan iris.

A large Himalayan iris with seven or eight leaves, 2 to 3 feet long, on the stem; the latter is branched and bears about four heads of bright lilac flowers.

For previous introduction see No. 66578.

67366. IRIS SISYRINCHIUM L. Moraea iris.

A tender rather low iris, 6 to 12 inches high, native to southern Europe, Asia, and Africa. The fugitive flowers are lilac purple with a yellow spot on the outer segments.

67367. LONICERA CHRYSANTHA Turcz. Caprifoliaceae. Coralline honeysuckle.

A shrubby honeysuckle from Japan, up to 12 feet high, with upright stems, somewhat rhombic leaves 2 to 5 inches long, and yellowish white flowers three-fourths of an inch long. It is particularly handsome in autumn with its bright coral-red fruit.

For previous introduction see No. 42315.

67368. MIRABILIS LONGIFLORA L. Nyctaginataceae. Sweet four-o'clock.

An attractive herbaceous perennial 2 to 3 feet high, native to Mexico, with heart-shaped hairy leaves and long-tubed white pink or violet flowers which are very fragrant in the evening.

67369. MORAEA IRIDIODES L. Iridaceae. Iris moraea.

A South African relative of the iris with white flowers over 3 inches across and leaves in basal fan-shaped rosettes.

For previous introduction see No. 31852.

67370. MORAEA ROBINSONIANA Moore and F. Muell. Iridaceae.

A bulbous irislike plant from Australia with radical leaves about 5 feet long and white flowers, spotted red and yellow near the base.

67371. NICOTIANA RUSTICA L. Solanaceae. Aztec tobacco.

67372. PHELLODENDRON CHINENSE GLABRUSCULUM C. Schneid. Rutaceae. Chinese cork tree.

A handsome Chinese tree about 30 feet high, with dark gray-brown bark, dark yellowish green compound leaves hairy beneath, and black fruits in panicles about 3 inches long.

67373. RHODODENDRON SMIRNOWI Trautv. Ericaceae. Smirnow rhododendron.

A shrub or small tree about 20 feet high with dark-green leaves grayish hairy beneath and compact heads of rosy red flowers each about 3 inches across. Native to the Caucasus.

For previous introduction see No. 66478.

67374. ROSA ACICULARIS Lindl. Rosaceae. Prickly rose.

A low densely prickly shrub native to northern America, Europe, and Asia. It bears three to seven leaflets and solitary deep-rose flowers followed by pear-shaped fruits.

For previous introduction see No. 54165.

67344 to 67376—Continued.

67375. SKIMMIA FOREMANNII Hort. Rutaceae.

A low densely branched Japanese evergreen shrub with narrow yellowish green leaves and roundish red berries. It is considered to be a hybrid between *Skimmia japonica* and *S. fortunei*.

67376. TRITOMA CAULESCENS (Baker) Carr. (*Kniphofia caulescens* Baker). Liliaceae. Torch lily.

A showy herbaceous perennial from the Cape of Good Hope with sword-shaped radical leaves 2 to 3 feet long and a flower spike about 6 inches long. The lower flowers are yellow and the upper ones red.

67377 to 67396.

From Russia. Seeds presented by A. Kol, chief of the bureau of introduction, Institute of Applied Botany, Leningrad, Russia, through J. W. Pincus, Amtorg Trading Corporation, New York, N. Y. Received May 13, 1926.

67377 to 67379. AVENA SATIVA L. Poaceae. Oats.

67377. No. 9451. Variety *mutica*. Selection No. 145. From the Western Siberian Experiment Station.

67378. No. 9452. Variety *krausei*. Selection No. 117. From the Western Siberian Experiment Station.

67379. No. 10188. Variety *persica* Vav. From Persia.

67380 to 67385. HORDEUM spp. Poaceae.

67380 and 67381. HORDEUM DISTICHON NUDUM L. Two-rowed barley.

67380. No. 10249. Variety *nudum* L. Selection No. 07-B-III. From Turkestan.

67381. No. 10250. Variety *nudum* L. Selection No. 0128-A-VII. From Turkestan.

67382. HORDEUM DISTICHON PALMELLA Harlan. Two-rowed barley.

No. 10251. Variety *praecoccium* R. Reg. From the Erivan Government.

67383. HORDEUM VULGARE COELESTE L. Six-rowed barley.

No. 10041. Variety *nudum* L. From the Jaroslav Government.

67384. HORDEUM VULGARE NIGRUM (Willd.) Beaven. Six-rowed barley.

No. 10247. Variety *tanaiticum* Reg. Selection No. 029-A-VII. From the north of Caucasia.

67385. HORDEUM VULGARE PALLIDUM Seringe. Six-rowed barley.

No. 10246. Variety *pallidum* Ser. Selection No. 0815-A-II. From Turkestan.

67386 and 67387. PANICUM MILIACEUM L. Poaceae. Proso.

67386. No. 3003. Selection No. 853. From the Saratov Government.

67387. No. 10242. *Afganskoe*. From Afghanistan.

67388 to 67394. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

67388. No. 3000. Variety *albidum* Al. Belozesnaja. Selection No. 604. From the Saratov Government.

67389. No. 3001. Variety *albidum* Al. From the Saratov Government.

67390. No. 9446. Variety *calcium*. Selection No. 0111. From the Western Siberian Experiment Station.

67377 to 67396—Continued.

67391. No. 9447. Variety *lutescens*. Selection No. 0479. From the Western Siberian Experiment Station.

67392. No. 9449. Variety *millurum*. Selection No. 0254. From the Western Siberian Experiment Station.

67393. No. 10244. Variety *gracum* Körn. Sary Mahiz. Selection No. 0289 A IV. From Turkestan.

67394. No. 10245. Variety *gracum* Körn. Sary Mahiz. Selection No. 0283 A IV.

67395 and 67396. TRITICUM DURUM Desf. Poaceae. Durum wheat.

67395. No. 2995. Variety *hordeiforme*. *Belotourka*. Selection No. 189. From the Samara Government.

67396. No. 2996. Variety *melanopus* Al. *Belotourka*. Selection No. 69. From the Samara Government.

67397. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Herradura, Cuba. Cuttings presented by F. S. Earle, through E. W. Brandes, Bureau of Plant Industry. Received June 1, 1926.

P. R. No. 492.

67398 and 67399. PHYLLOSTACHYS spp. Poaceae. Bamboo.

From Canton, China. Rhizomes collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January and February, 1926. Numbered May, 1926. Notes by Mr. McClure.

67398. PHYLLOSTACHYS sp.

No. 247. November 22, 1925. *Koon yam chuk*, *Kan chuk*. A small monopodial bamboo growing wild along the banks of the West River, near Wuchow, Kwongsi. The culms are 1 to 1.5 meters high and 1 to 1.5 centimeters in diameter. The young shoots which begin to appear in April are edible and considered very delicious by the Chinese. It is not necessary to parboil them.

67399. PHYLLOSTACHYS sp.

No. 258. November 25, 1925. *Fa hok chuk*. These rhizomes were purchased from a grove near Takhing, West River. This bamboo is cultivated for its edible shoots, which begin to appear in April. The culms, medium thin-walled and rather tough, are used to some extent in weaving bamboo articles, such as baskets and trays.

67400 to 67404. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From China. Cuttings collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 3, 1926. Notes by Mr. McClure.

Obtained at T'owa, a village near the Canton Christian College, March 9, 1926.

67400. No. 435. *Haak kwat che*, *Tsz che*, *Hung che*. A very large variety, characterized by the purple color of the stalks. It has a thick "skin" and is considered the most durable in shipment. Most of the crop of this variety is consumed fresh.

67401. No. 436. *Paak che*. A smaller and thinner skinned variety than No. 435 [No. 67400]. It is largely consumed fresh. Though this variety contains the most juice, the flavor is said to be not so rich as that of others.

67400 to 67404—Continued.

67402. No. 437. *Kam shaan che*. This variety is said to have originally come from Australia. It is very large and coarse and is seldom eaten fresh, though it is said to give the best sugar return of any variety.

67403. No. 438. *Chuk che*, *Maau che*. This variety is characterized by a very hard "skin" and is consequently very little eaten fresh.

67404. No. 439. *Muk che*. This variety is said to have been introduced from Singapore and is considered the poorest from the Chinese point of view. The stalks are extremely hard (hence the name "wooden cane") and are said to reach the largest stature of any.

67405. GOSSYPIUM sp. Malvaceae.

Cotton.

From Sumatra. Seeds collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 23, 1926.

No. 707. A kidney cotton found near the military camp of Lawe Aonan, in the very heart of Atjeh, at an altitude of 800 meters. It may be a form introduced into the Battak lands many years ago.

67406. STROPHANTHUS GRATUS Baill. Apocynaceae.

From Ibadan, Nigeria, Africa. Seeds presented by R. A. Sykes, senior conservator of forests. Received May 26, 1926.

A handsome woody climber, native to tropical Africa, with fragrant flowers, white tinged with pink, and seeds which furnish crystalline strophanthus, according to Holland (Useful Plants of Nigeria, pt. 3, p. 447). This substance is used in medicine, and the seeds of this species are preferred to the common strophanthus seeds of commerce, which yield this glucosid in an amorphous condition.

67407. PRUNUS sp. Amygdalaceae.

Smith plumcot.

Growing at the Plant Introduction Garden, Chico, Calif. A form developed from scions of unnamed plumcots obtained in 1915 from M. Sharpe, Vacaville, Calif. Numbered June, 1926.

Fruit medium sized to medium large, $1\frac{3}{4}$ to 2 inches long and $1\frac{1}{2}$ to $1\frac{3}{4}$ inches in diameter. Practically all fruits are decidedly compressed. The shape is irregular, as with most plumcots and apricots, some specimens tending to be kidney-shaped. Stem short, medium stout. Suture a distinct line in most specimens, but a quite prominent depression in a few. Apex rounded to semi-pointed in some specimens. Some specimens almost completely overlaid with dark red; the majority, however, have only a limited amount of coloring, it not being uncommon for one side only to be entirely colored. Skin medium thick, medium tough. Flesh light yellow, medium juicy, with rather numerous small fibrous threads which are not objectionable. Mildly subacid, except in very ripe fruit. Flesh clings tightly to the medium-sized pit. Pit 1 inch long, five-eighths of an inch wide, and medium compressed. This plumcot is early, ships well, and is of fairly good quality. The irregular size and shape of the samples at hand perhaps may be overcome in part by good cultural methods. The shy bearing habit of this tree may be a handicap to commercial production. Row 8, tree 1, old test orchard; row 16, tree 45, and row 19, tree 34, new test orchard.

67408. MELILOTUS INDICA (L.) All. Fabaceae. Sweet clover.

From Rabat, Morocco. Seeds presented by A. Pochon, Directeur, Jardin d'Essais de Rabat. Received May 28, 1926.

Locally grown seed.

For previous introduction see No. 61322.

67409. LINUM USITATISSIMUM L. Lin-
aceae. **Flax.**

From Riga, Latvia. Seeds obtained from C. J. Mayer, commercial attaché, United States legation. Received June 18, 1926.

Locally grown seed.

67410 and 67411. LYSSOCHILUS spp.

From Africa. Roots obtained through H. L. Shantz, Bureau of Plant Industry. Received March 30, 1926. Numbered June, 1926.

Collected during November in dry ground in the highlands of northern Nyassaland, and sent to me by Mrs. W. P. Young, of Livingstonia. (Shantz.)

67410. No. 488.

67411. No. 490.

67412. VETIVERIA ZIZANIODES (L.)
Nash (*Andropogon squarrosus* L. f.).
Poaceae. **Grass.**

From Buitenzorg, Java. Cuttings presented by Dr. P. J. S. Cramer, Director, General Experiment Station, Department of Agriculture, Industry, and Commerce. Received September 1, 1925. Numbered June, 1926.

A stout grass, with tufted stems 2 to 5 feet high, rigid leaves 1 to 2 feet long, and erect conical panicles up to a foot in length. Native to lower India and Burma.

For previous introduction see No. 34928.

67413. COLOCASIA ESCULENTA (L.)
Schott. Araceae. **Dasheen.**

From San Pedro, Sula, Honduras. Tubers presented by Mrs. H. N. Auler. Received October 7, 1925. Numbered June, 1926.

The dasheen of this country is pink and white and very dry. We have had about 15 pounds from one plant. (Mrs. Auler.)

67414 and 67415. COLOCASIA ESCU-
LENTA (L.) Schott. Araceae.
Dasheen.

From Aburi, Gold Coast, West Africa. Tubers presented by F. N. Howes, Government botanist. Received January 7, 1926. Numbered June, 1926. Notes by Mr. Howes.

These two varieties are grown extensively all over the forest country of this colony for food; they appear equally hardy and disease resistant.

67414. *Red*. The growing points of the tubers of the red variety are distinctly red, though the flesh, particularly when young, is sometimes of a pinkish tint.

67415. *White*. The tubers of the white variety have no pigment at all.

67416. MICHELIA CHAMPACA L. Mag-
noliaceae.

From China. Plants obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February 9, 1926. Numbered June, 1926.

No. 307. *Wong yuk laan*. Obtained at Fatsi, Canton, from a commercial flower garden. A small much-branched tree of cylindrical habit. The leaves are pale green, entire, narrow oblong, acute and shiny above. The long, slender, cream-colored, solitary flowers, mostly terminal, are borne the year round, but most abundantly in May and June. Owing to their rich fragrance these flowers are highly esteemed by the Chinese and are commonly worn by women in their hair on formal occasions and by children behind their ears and in their noses. The petals do not open very soon, but remain for a long time quite tight together. In this state the flowers are 3 to 4 centimeters long and 1 centimeter in diameter in the middle.

67417 to 67423. COLOCASIA ESCULENTA
(L.) Schott. Araceae. Taro.

From Canton, China. Tubers and offshoots collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 2, 1926. Notes by Mr. McClure.

67417. No. 357. *Taii oo tau*. Obtained at Yeunguk, Lungtau Mountain, January 13, 1926. The most commonly cultivated variety in this rural district.

67418. No. 358. *Leng oo tau*. Obtained at Yeunguk, Lungtau Mountain, January 13, 1926. This is a rather small variety which is commonly planted on hillsides (hence the name "hill taro"). It thrives without irrigation, which is considered essential for most of the commonly cultivated varieties.

67419. No. 393. *Kaau tsau oo tau, Paak nga oo tau*. Obtained at Shiuchow, January 23, 1926.

67420. No. 394. *Heung oo tau*. One of the most widely cultivated varieties of the Province, obtained at Shiuchow, January 23, 1926.

67421. No. 396. *Hung nga oo tau*. A widely cultivated variety obtained at Shiuchow, January 23, 1926.

67422. No. 398. *Hung yuk oo*. A "red-fleshed" variety obtained at Shiuchow, January 24, 1926.

67423. No. 399. *Paak nga oo tau*. A "white-sprouted" variety obtained at Shiuchow, January 24, 1926.

67424. XYLOCARPUS GRANATUM Koen.
Meliaceae.

From Sibolangit, Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 20, 1926.

A moderately large evergreen tree from south-eastern Asia, the seeds of which yield an oil used as hair oil and for illumination. The hard wood is used for making tools.

67425 to 67484. PHASEOLUS VULGARIS
L. Fabaceae. Common bean.

From Tiflis, Georgia, Caucasus. Seeds presented by L. Dekaprevich, chief specialist of plant breeding, botanical garden. Received June, 1926.

67425. *N-1*. A white elliptical variety.

67426. *N-4*. A short elliptical red variety.

67427. *N-5*. A black elliptical variety.

67428. *N-6*. Two-thirds red; one-third white with red spots.

67429. *N-7*. White with dark-red spot around hilum.

67430. *N-8*. Light brown with reddish-brown markings.

67431. *N-10*. Light buff with reddish-brown markings.

67432. *N-12*. Long dark-red variety.

67433. *N-13*. An elliptical white variety.

67434. *N-14*. A round snow-white variety.

67435. *N-15*. Dark buff with oblique square ends.

67436. *N-16*. An elliptical filbert-colored variety.

67437. *N-16*. A round yellowish variety.

67438. *N-17*. A dark-buff elliptical variety.

67439. *N-22*. A white variety.

67425 to 67484—Continued.

67440. *N-22*. An elliptical red variety.
67441. *N-23*. A long dark-buff bean with square ends.
67442. *N-24*. A long white bean with large black spot around hilum.
67443. *N-25*. A long elliptical solid-black bean.
67444. *N-28*. Light buff overlain with dark red.
67445. *N-29*. Dark buff with maroon stripes and spots.
67446. *N-32*. A long medium-sized white bean.
67447. *N-34*. A long flat dark-red bean.
67448. *N-36*. Long elliptical pure white.
67449. *N-38*. Small elliptical pure white.
67450. *N-39*. A long elliptical light-buff bean with square ends.
67451. *N-40*. Light buff with very faint darker lines.
67452. *N-41*. A long elliptical yellowish-brown bean.
67453. *N-42*. A dark-buff elliptical slightly curved bean.
67454. *N-43*. Long elliptical greenish bean.
67455. *N-44*. Dark-red solid color.
67456. *N-45*. Long elliptical dark red.
67457. *N-46*. Short elliptical dark grayish red.
67458. *N-47*. Long elliptical grayish black.
67459. *N-48*. A long elliptical dark-red variety.
67460. *N-49*. Similar to *N-48*, but much smaller.
67461. *N-51*. Light buff with darker markings.
67462. *N-53*. Light buff with nearly black markings.
67463. *N-54*. Similar to *N-53*, but smaller.
67464. *N-56*. Reddish brown with dark-brown lines.
67465. *N-57*. Light brown with dark lines and spots.
67466. An elliptical variety.
67467. An elliptical yellow variety.
67468. An elliptical reddish-brown variety.
67469. An elliptical black variety.
67470. An elliptical straw-colored variety.
67471. An oblong variety.
67472. A variety which is oblong and white.
67473. Variety oblong and toast colored.
67474. Oblong pale-yellow variety.
67475. Oblong pale-yellow variety.
67476. An oblong pale-yellow variety.
67477. An oblong buff-colored variety.
67478. An oblong buff-colored variety.
67479. An oblong dark-reddish variety.
67480. A round variety.
67481. A round cream-colored variety.
67482. No. 14. A round cream-colored variety.
67483. A small round light-yellow variety.
67484. A round buff-colored variety.

67485 to 67489. *FRAGARIA* spp. *Rosa-ceae*. Strawberry.

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co. Received April 6, 1926. Notes from 1925-26 Catalogue of Vilmorin-Andrieux & Co.

67485. *FRAGARIA* sp.

Abondance. Fruits bright red, extra large, uniform shape; a very prolific variety.

67486. *FRAGARIA* sp.

Belle Bordelaise. Fruits aromatic, with raspberry-like flavor; sometimes everbearing.

67487. *FRAGARIA* sp.

Jucunda. Fruits abundant, large, almost round, scarlet-vermilion; flesh red, juicy, aromatic.

67488. *FRAGARIA* sp.

Louis Vilmorin. Fruits rather large, uniformly heart-shaped, dark red. A hardy, dependable variety.

67489. *FRAGARIA* sp.

M. nistre Pams. A vigorous, productive variety, fruits large, conical, shining red; flesh white, juicy, aromatic, of exquisite flavor.

67490. *ALOCASIA INDICA* Schott. *Ara-ceae*.

From Ceylon. Tubers obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 26, 1926. Numbered June, 1926.

No. 320. Tubers of the yautia, or, as it is called in Ceylon, the "habarala," obtained at the Sunday market in Kadugannawa, near Kandy, January 12, 1926. After having some of them cooked and served, I decided that they were worth sending in for a comparative test with those now being grown experimentally in the Gulf States. (*Fairchild*.)

67491. *STELECHOCARPUS BURAHOL* (Blume) Hook. f. and Thoms. *An-nonaceae*.

From Diokjakarta, Java. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received June 12, 1926.

No. 765. Obtained in the market, May 1, 1926. The Kepel tree of the Javanese, which is grown around Diokjakarta. The fruits are produced in clusters on the branches and trunk of the tree. They resemble small potatoes in shape and color. They have a pleasant fragrance and flavor, somewhat like that of *Asimina triloba*.

67492. *TRITICUM TURGIDUM* L. *Poa-ceae*. Poulard wheat.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received June 12, 1926.

Touggourt, April, 1926. *Khalof*. Grown under irrigation; entirely immune from rust. (*Trabut*.)

67493 to 67495. *SACCHARUM OFFICINARUM* L. *Poaceae*. Sugar cane.

From Rio de Janeiro, Brazil. Cuttings presented by Antonio Carlos, Pastana Experiment Station, through E. W. Brandes, Bureau of Plant Industry. Received June 16, 1926.

67493. No. 2443.

67495. No. 4905.

67494. No. 4475.

67496 and 67497. TRIFOLIUM INCARNATUM L. Fabaceae.**Crimson clover.**

From Budapest, Hungary. Seeds obtained from Gebrüder Schwartz. Received June 15, 1926.
Locally grown seed.

67496. No. 286.

67497. No. 574.

67498. HYMENOCALLIS AMANCAES (Ruiz and Pav.) Nichols. Amaryllidaceae.**Spider lily.**

From Lima, Peru. Bulbs presented by R. Beaton. Received June 16, 1926.

A tender spider lily from Chile and Peru, about 2 feet high, with large bright-yellow flowers.

67499 and 67500. IPOMOEA BATATAS (L.) Poir. Convolvulaceae.**Sweet potato.**

From China. Tubers collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February 18, 1926. Numbered May, 1926.

67499. No. 331. *Hung faan shue*. Obtained at Chukkouen, Lohkongtung, December 27, 1925. A variety of unusual flavor and quality with red skin and cream-colored flesh. The tubers often reach a fairly large size, but when they do the skin has a tendency to break open, resulting in malformed specimens.

67500. No. 332. *Heung shui faan shue*. Obtained at Chukkouen, Lohkongtung, December 27, 1925. A variety with pale-yellow skin and deliciously flavored flesh, containing no fibers, which is butter yellow when cooked. This variety never reaches a very large size, and for that reason it is not commonly cultivated. It compares favorably with, if not actually superior to, our better varieties.

67501 to 67504.

From Java. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received June 18, 1926.

67501. FICUS WARINGIANA Hort. Moraceae.

No. 769. May 7, 1926. A small tree growing below Karangpandan. The dark-red, almost black fruits, the size of a pigeon's egg, are very attractive. This waringian fig grows into an immense tree suitable for very wide avenues. It is of the banyan type, with many pendent aerial roots which descend into the ground.

67502. FICUS sp. Moraceae.

No. 770. A tall gray-barked tree with fine buttresses, medium-sized leaves, and red fruits as large as olives and of the same shape, which turn almost black when ripe. This tree is used as a shade tree at the gate of a private house near the Pahlengan Hot Springs, near Karangpandan.

67503. SAPINDUS RARAK DC. Sapindaceae.**Soapberry.**

No. 772. From the market at Diokjarkarta, May 7, 1926. A dioecious tree which grows at an altitude of 1,500 meters. The large sticky semitransparent fruits of a waxy texture contain much saponin and are used by the Javanese for washing clothes.

67504. SAURAUJA BLUMIANA Benn. Dilleniaceae.

No. 754. From the Dieng Plateau at an altitude of 6,000 feet, April 25, 1926. The Tjoe-woet, also Oembel-Oembelan, named because of the slimy contents of the fruit in which the seeds are embedded. A small tree or shrub occurring all over Java at an altitude of about 5,000 feet, with attractive glossy leaves and white, bell-shaped fruits.

67505 to 67509.

From Calcutta, India. Seeds purchased from Frederico Varela. Received June 15, 1926. Notes by B. T. Galloway, Bureau of Plant Industry.

67505. BAMBOS JUBBULPORENSIS Hort. Poaceae.**Bamboo.**

This is the "dry-zone bamboo" of upper India. There is no recorded name or description of the species. The seedlings closely resemble those of *Bambos polymorpha* and *B. tulda*.

67506. BAMBOS POLYMORPHA Munro. Poaceae.**Bamboo.**

A promising bamboo which may have many uses commercially and domestically. It grows in tufts or clumps and under favorable conditions may reach a height of 75 to 80 feet. The culms are thick walled and 3 to 6 inches in diameter. The leaves are comparatively small for such a large bamboo, usually 3 to 7 inches long and from one-third to one-half inch wide. Native to Bengal and Burma, India.

For previous introduction see No. 61373.

67507. BAMBOS TULDA Roxb. Poaceae. Bamboo.

One of the most promising species introduced, but it will not stand much frost. The culms are green and smooth and under good conditions may reach a height of 60 to 70 feet and a diameter of 2 to 5 inches. They are nearly solid and extremely tough and strong. The culms split easily and therefore lend themselves to many uses. The plant is quite leafy and proves a beautiful ornamental with its graceful leaning stems and tropical frondage. Native to Bengal, India.

67508. DENDROCALAMUS STRICTUS (Roxb.) Nees. Poaceae.**Bamboo.**

A strikingly beautiful and useful bamboo already grown to a considerable extent in the warmer parts of Florida, but worthy of further planting. The culms under good conditions may grow to a height of 80 to 100 feet. This bamboo will stand considerable drought and cold. It is more especially suited for clump planting. Native to India.

67509. THYRSOSTACHYS SIAMENSIS Gamble. (Bambos regia Thoms.). Poaceae. Bamboo.

This is a so-called "regal bamboo" of Siam and as far as known has not previously been introduced into this country. The culms grow to a height of 35 to 40 feet, are very straight, and do not branch until high up. It is said to be one of the most graceful bamboos known. Its chief value will doubtless be in its ornamental nature. Suitable for the warmer coast sections of Florida, Porto Rico, and the Canal Zone.

67510 to 67514.

From Jalta, Crimea, Russia. Seeds presented by Th. K. Kalajda, horticultural director, Nikita Botanic Garden. Received June 19, 1926.

A collection of locally grown leguminous forage plants.

67510 to 67512. MELLLOTUS spp. Fabaceae.**67510. MELLLOTUS ALBA Desr.****White sweet clover.**

No. 274.

67511. MELLLOTUS OFFICINALIS (L.) Lam.**Sweet clover.**

No. 275.

67512. MELLLOTUS TAURICA (Bieb.) Seringe.**Sweet clover.****67513. TRIFOLIUM ARVENSE L. Fabaceae.****Clover.**

No. 286.

67514. TRIFOLIUM PRATENSE L. Fabaceae.**Red clover.**

No. 287.

67515 to 67519.

From Java. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received June 11, 1926.

67515. GARCINIA MANGOSTANA L. Clusiaceae. Mangosteen.

No. 771. Karangpandan. May 8, 1926. Locally grown seeds.

67516 and 67517. LANSIUM DOMESTICUM Jack. Meliaceae. Langsat.

For previous introduction see No. 61899.

67516. No. 771. Karangpandan. May 8, 1926. Seeds from the largest fruit I have ever seen.

67517. No. 771. Karangpandan. May 8, 1926. A very large-fruited variety.

67518 and 67519. CAPSICUM ANNUM L. Solanaceae. Red pepper.

67518. No. 780. May 10, 1926. A strikingly brilliant rather long slender variety which is sold both green and ripe at the Kediri market.

67519. No. 781. Obtained at the market in Kediri, May 10, 1926. A small very hot variety used extensively in making "R's Tavel."

67520 to 67526. GOSYPIUM spp. Malvaceae. Cotton.

From Trinidad, British West Indies. Seeds obtained from the Trinidad Imperial College of Tropical Agriculture through A. E. Longley, Bureau of Plant Industry. Received June 19, 1926.

67520 and 67521. GOSYPIUM BRASILIENSE Macfad.

67520. Trinidad red kidney cotton.

67521. Variety *apospermum*. A yellow-flowered shrub, usually about 4 feet high, native to Brazil.

67522. GOSYPIUM CERNUUM Todaro.

An erect bush, 3 feet high, cultivated in India. The flowers are pale sulphur yellow, and the petals are marked with a purple spot.

67523. GOSYPIUM NEGLECTUM Todaro.

Cawnpore. A cotton cultivated in certain parts of India and closely related to *Gossypium arboreum*, but less arborescent.

67524. GOSYPIUM OBTUSIFOLIUM Roxb.

Himbury. A shrubby, much-branched plant, with small three-lobed leaves and three-celled capsules with three seeds in each cell.

67525. GOSYPIUM PUNCTATUM Schum. and Thom.

Variety *laciniatum*. A wild cotton found in tropical America and also in central and western Africa. It is described (Watt, *Wild and Cultivated Cottons of the World*) as a shrub with hairy three-lobed leaves and yellow flowers spotted with purple. The wool is pure white and silky.

For previous introduction see No. 62597.

67526. GOSYPIUM PURPURASCENS Poir.

Trinidad red leaf. A tropical American shrub, 6 to 10 feet high, with purplish branches, three-lobed leaves, and sulphur-yellow flowers.

67527. GARCINIA MANGOSTANA L. Clusiaceae. Mangosteen.

From Java. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received June 28, 1926.

No. 786. Seeds from medium-sized fruits obtained in the market in Soerabaya, May 17, 1926.

67528. HEVEA BRASILIENSIS (H. B. K.) Muell. - Arg. Euphorbiaceae. Para rubber tree.

From Port au Prince, Haiti. Seeds obtained through O. F. Cook, Bureau of Plant Industry. Received June 8, 1926.

The Para rubber tree, native to Brazil and now extensively cultivated in the East Indies, has always ranked as the principal and most important rubber-producing tree of the world. In 1922 the world's production of rubber amounted to 379,200 tons, of which 354,980 tons, or 93 per cent, came from this source.

For previous introduction see No. 64542.

67529. CORYNOCARPUS LAEVIGATA Forst. Corynocarpaceae. Karaka.

From Avondale, Auckland, New Zealand. Seeds presented by H. R. Wright. Received May 20, 1926.

A large, handsome tree with oblong glossy laurel-like leaves 3 to 7 inches long and small white flowers in erect panicles about 4 inches long. The pulp of the orange fruits, about an inch long, is extremely poisonous, but the kernel was one of the staple articles of diet of the Maoris, the original inhabitants of New Zealand, where this tree is native.

67530 to 67533.

From Nigeria, Africa. Seeds presented by H. Caracciolo, Port of Spain, Trinidad, British West Indies. Received May 27, 1926.

67530. ALBIZZIA WELWITSCHII Oliver. Mimosaceae.

A tropical African leguminous tree, 40 to 50 feet high, with a spreading crown and attractive feathery foliage.

67531. ANNONA SQUAMOSA L. Annonaceae. Sugar apple.

A special variety. (*Caracciolo*.)

For previous introduction see No. 51015.

67532. CHRYSOPHYLLUM CAINITO L. Sapotaceae. Caimito.

White star apple. A large handsome West Indian tree, with striking dark-green leaves which are copper colored underneath. The smooth round purplish fruit is four seeded. In an unripe state the fruit contains a sticky white latex, but when fully matured the white transparent jellylike substance surrounding the seeds is sweet and agreeable. This is well worth cultivating as an ornamental shade tree.

For previous introduction see No. 51814.

67533. PTEROSPERMUM ACERIFOLIUM (L.) Willd. Sterculiaceae.

A large Burmese tree, with very large oval leathery leaves, white or gray beneath, and long fragrant fleshy yellow flowers.

67534 and 67535.

From Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 14, 1926.

67534. *AESCHYNOMENE JAVANICA* Miquel. Fabaceae.

No. 509. Found in plot experiments at the Avros Experiment Station, Medan. February 22, 1926. A leguminous plant which may prove suitable as a cover crop in the southern United States.

67535. *ALEURITES MOLUCCANA* (L.) Willd. (*A. triloba* Forst.). Euphorbiaceae.

Lumbang.

No. 445. Sibolangit Botanic Garden. February 24, 1926. The candlenut tree of the Malayan Archipelago. The fruits are four times as large as those of this species grown in southern Florida. The nuts are eaten roasted.

For previous introduction see No. 59301.

67536. *AMARANTHUS GANGETICUS* L. Amaranthaceae.

From Colombo, Ceylon. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 14, 1926.

No. 393. February 12, 1926. The leaves and shoots are dark and light red and when young are used as spinach.

For previous introduction see No. 58461.

67537 to 67631.

From Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May, 1926.

67537. *AMOMUM* sp. Zinziberaceae.

No. 442. Sibolangit Botanic Garden. February 24, 1926. A plant 15 feet high with immense pinnate leaves which are very handsome. It is ideal for borders of ponds.

67538. *CALOTROPIS GIGANTEA* (L.) R. Br. Asclepiadaceae.

No. 423. An asclepiad with enormous lilac flowers. This interesting showy species was found on a strand at Sabang, Pulu We Island, off the coast of Sumatra, February 17, 1926.

67539. *BARLERIA* sp. Acanthaceae.

No. 444. Sibolangit Botanic Garden. February 22, 1926. A spiny hedge plant used successfully as clipped hedge at the Avros Experiment Station, Medan.

67540. *BAUHINIA GLAUCA* Wall. Caesalpiniaceae.

No. 506. Sibolangit Botanic Garden. February 25, 1926. Small tree or tall shrub with white flowers, said to be very handsome.

67541. *CAJAN INDICUM* Spreng. Fabaceae. Pigeon pea.

No. 656. Found in a little native clearing on the shore of Lake Tawar, near Takengon. March 9, 1926. This may be a distinct strain.

67542. *CASSIA JAVANICA* L. Caesalpiniaceae.

No. 438. Sibolangit Botanic Garden. February 24, 1926. A small tree with gorgeous pink flowers $2\frac{1}{2}$ inches across, borne in large clusters during February.

67537 to 67631—Continued.

67543. *CASUARINA SUMATRANA* Jungh. Casuarinaceae.

No. 443. Sibolangit. February 24, 1926. A tree with drooping branches and very fine pendent branchlets said to grow on rocky soils in Sumatra. The fruits are large and globose with prominent protruding tubercles. It is the handsomest of the genus.

For previous introduction see No. 54705.

67544. *CELTIS TETRANDBRA* Roxb. Ulmaceae. Hackberry.

No. 544. A small tree growing by the roadside near Takengon, at an altitude of 3,000 feet. March 3, 1926.

67545. *CHAETOCHELOA* sp. Poaceae. Grass.

No. 513. A small delicate grass from the golf links at Brestagi, near Medan, at an altitude of 5,000 feet. February 21, 1926.

67546. *CITRUS AURANTIFOLIA* (Christm.) Swingle. Rutaceae. Lime.

No. 425. Obtained in the market at Sabang, Pulu We Island, off the coast of Sumatra, February 12, 1926. The so-called "Kaffir lime." The deep-green fruits are rougher than those of a rough lemon. They are boiled and used to kill lice in the head. May prove of value as stock.

67547. *CITRUS* sp. Rutaceae.

No. 494. A strange fruit the shape of a tangelo, light yellow and 4 inches long, found at Takengon at an altitude of 3,000 feet. The taste is resinous like the rind of a citrange, making it inedible. It is used by the natives for washing their hair.

67548. *CITRUS* sp. Rutaceae.

No. 495. Obtained in the market at Takengon. March 8, 1926. The rather juicy, though sour, green fruits, 3 inches long, are obovate, and the skin is somewhat rugose. There is an abundance of seeds.

67549. *COSTUS RUMPHIANA* Hort. Zinziberaceae.

No. 429. Sibolangit Botanic Garden. February 22, 1926. An attractive plant with immense pinnate leaves, which rise from a rhizome, and deep pink flowers borne on tall stalks.

67550. *COTONEASTER* sp. Malaceae.

No. 659. March 9, 1926. A scraggly bush, 10 feet high, found on a hillside in a small canyon leading down into Lake Tawar, near Takengon.

67551 and 67552. *CROTALARIA USARAMOENSIS* Baker f. Fabaceae.

For previous introduction see No. 64064.

67551. No. 466. Takengon. March 2, 1926. A crotalaria with long spikes of yellow to bronze flowers.

67552. No. 523. Lampehan. March 3, 1926. A bushy yellow-flowered species about 6 feet high, which is being grown as a protection crop on poor volcanic sand. It grows so rapidly that it shades the young seedlings.

67553. *CROTALARIA CALYCINA* Schrank. Fabaceae.

No. 532. Lampehan. March 3, 1926. A curious low-growing plant with long hairy sepals, found on poor volcanic sand at an altitude of 3,000 feet.

67537 to 67631—Continued.

67554. *CYPHOMANDRA* *BETACEA* (Cav.) Sendt.
Solanaceae. Tree tomato.

No. 433. Medan. February 21, 1926. A red-fruited variety shading into yellow. The fruits are made into a deep-red jelly or preserve resembling stewed apricots.

For previous introduction see No. 52740.

67555. *DONAX* *CANNAEFORMIS* (Forst.) Rolfe.
Marantaceae.

No. 519. Sibolangit Botanic Garden. February 25, 1926. A tall ornamental plant which makes a wonderful growth of broad leaves and long smooth stems in the shady forest.

67556. *EULALIA* sp. Poaceae. Grass.

No. 667. A tall, rather coarse grass which covers a considerable portion of the extensive grass lands of the mountains in northern Sumatra, at an altitude of about 2,000 feet. Found on the road between Takengon and Bireun. March 11, 1926.

67557 to 67570. *FICUS* spp. Moraceae.

67557. *FICUS* *TOXICARIA* L.

No. 672. A handsome species of fig tree which bears enormous quantities of non-poisonous though not edible fruits. An excellent shade tree. Sibolangit Botanic Garden, March, 1926.

67558. *FICUS* *VARIEGATA* Blume.

No. 674. Sibolangit Botanic Garden, March, 1926. The gondang tree of Java and Sumatra. A large forest tree with enormous numbers of long pedicelled fruits an inch or so across.

For previous introduction see No. 50398.

67559. *FICUS* *KALICARPA* Miquel.

No. 472. Between Takengon and Bireun. March 5, 1926. A climbing fig which covered a tall forest tree with its growth as does *Ficus repens*. It bears orange fruits $1\frac{1}{2}$ inches in diameter which are mottled with lighter yellow. From a distance this is a striking species and is quite a splendid covering for stone fences, etc.

67560. *FICUS* *AMPELOS* Burm. f.

No. 473. Road between Takengon and Bireun. March 5, 1926. A dwarf fig tree, about 10 inches high, with tiny brilliant red fruits produced in great abundance. Of possible use as a potted plant.

67561. *FICUS* *PARIETALIS* Blume.

No. 481. Takengon (Balica). March 5, 1926. A handsome climbing fig with leaves 8 inches by $3\frac{1}{2}$ inches, ovate and glossy. It bears pretty little figs five-eighths of an inch in diameter on a short stem.

67562. *FICUS* *SUBULATA* Blume.

No. 484. Found on the road between Bireun and Takengon. March 5, 1926. A handsome climbing large-leaved plant bearing small orange fruits half an inch in diameter.

67563. *FICUS* sp.

No. 492. Road between Bireun and Takengon. March 5, 1926. An attractive shade tree of medium to large size, bearing an abundance of fruits from the main branches. These fruits, $1\frac{1}{4}$ inches in diameter, are not edible.

67537 to 67631—Continued.

67564. *FICUS* *GIBBOSA* Blume.

No. 496. From the shore of Lake Tawar, Takengon. March 9, 1926. A handsome medium-sized tree with a single gray trunk. The large glossy leaves are dark green, and the berries are deep orange and half an inch in diameter.

67565. *FICUS* sp.

No. 522. From the cliffs above the shore of Lake Tawar, near Takengon. March 2, 1926. Hanging against the cliff there appeared a hundred or so of the most superbly colored fruits, a dull crimson shading into gold on the shady side, which were the size and shape of a lemon. The foliage, dark green on both sides, was coriaceous and as harsh to the touch as sandpaper. The surface of the fruits was rough and when ripe became soft and shiny. The large light-yellow seeds are embedded in a sweet purplish jellylike substance.

67566. *FICUS* *GLABELLA* Blume.

No. 537. Found near a bridge at Takengon, at an altitude of 3,000 feet. March 4, 1926. A beautiful shade tree with a fine rounded crown. In shape and general character it resembles *Ficus nitida*.

67567. *FICUS* *ALBA* Reinw.

No. 662. Found between Bireun and Takengon, at an altitude of 500 feet. March 11, 1926. A small but attractive tree having an abundance of brilliant yellow figs scarcely half an inch in diameter. When ripe these figs are red and sweet. They are called here "gompos."

67568. *FICUS* sp.

No. 675. February, 1926. One of the interesting fig trees at the Sibolangit Botanic Garden. It should be tried as a shade tree in southern Florida.

67569. *FICUS* sp.

No. 676. Sibolangit. February 26, 1926. A large forest tree which bears an abundance of small fruits.

67570. *FICUS* sp.

No. 677. A forest tree from the Sibolangit Botanic Garden. February, 1926.

67571. *ABELMOSCHUS* *ANGULOSUS* Wall. Malvaceae.

No. 540. Found on a road at Balek, near Takengon. March 3, 1926. A small shrubby annual which may be a wild form of the ordinary okra, but with more papery seed pods.

67572. *HONCKENYA* *FICIFOLIA* Willd. Tiliaceae.

No. 503. Sibolangit Botanic Garden. February 25, 1926. A very pretty shrub for doorways, bearing attractive purple flowers.

For previous introduction see No. 62910.

67573. *INDIGOFERA* *SUFFRUTICOSA* Mill. Fabaceae.

No. 529. March 3, 1926. A plant with sharp-pointed pods which curl upwards, growing on poor volcanic sand at an altitude of 3,000 feet, near Lampehan.

67574. *INDIGOFERA* sp. Fabaceae.

No. 681. A leguminous plant found near Sibolangit. February 19, 1926.

67537 to 67631—Continued.

67575. *INDIGOFEA* sp. Fabaceae.

No. 682. A leguminous plant from the Sibolangit Botanic Garden. February, 1926.

67576. *LIGUSTRUM GLOMERATUM* Blume. Oleaceae. Privet.

No. 527. March 3, 1926. A shrub with white flowers and bluish fruits which resembles *Ligustrum japonicum*, found along a roadside in the jungle near Takengon.

67577. *LONICERA JAVANICA* (Blume) DC. Caprifoliaceae. Honeysuckle.

No. 542. Takengon. March 2, 1926. A handsome shrub, 10 to 12 feet high, with leaves glossy on the upper surfaces and tomentose beneath, and large clusters of fragrant white flowers. It resembles *Lonicera japonica* somewhat, but is much prettier and, being a shrub, it is not likely to be troublesome.

67578. *SHUTERIA VESTITA* Wight and Arn. Fabaceae.

No. 465. Takengon. March 1, 1926. A small strong-growing leguminous vine found on banks along the mountain-side road.

67579. *MEMECYLON NUDUM* Blume. Melastomaceae.

No. 450. Sibolangit Botanic Garden. February 26, 1926. A shrub bearing masses of sky-blue flowers on the stems.

67580. *MIMUSOPS ELENGI* L. Sapotaceae.

No. 434. February 20, 1926. A street tree called "Bua Tanjong" growing in a yard at Medan. It is a small handsome evergreen which produces an abundance of long acorn-shaped fruits which turn red when ripe.

For previous introduction see No. 59681.

67581. *MIMUSOPS KAUKI* L. Sapotaceae.

No. 661. March 12, 1926. A splendid shade tree found by the side of the road in a kampong near Lho Senmawe. The reddish brown fruits, about 1¼ inches long and almost round, contain white latex, seeds, and flesh resembling that of the sapodilla.

For previous introduction see No. 51820.

67582. *MUSSAENDA* sp. Rubiaceae.

No. 515. Brestagi. February 21, 1926. A decorative shrub, somewhat resembling the dogwood, with one enlarged brilliant white sepal to each flower cluster. Found at an altitude of 5,000 feet.

67583. *PASPALUM CONJUGATUM* Berg. Poaceae. Grass.

No. 511. February 24, 1926. A grass from the edge of the golf links at Brestagi, at an altitude of 5,000 feet. This grass forms part of the lawn at Brestagi.

For previous introduction see No. 62245.

67584 and 67585. *PHAEOMERIA MAGNIFICA* (Roscoe) Schum. Zinziberaceae.

For previous introduction see No. 45154.

67584. No. 516. Sibolangit Botanic Garden. February 26, 1926. A gigantic-leaved species resembling *Amomum* in general character. The bright pink flowers are produced in large heads on stalks 3 feet high and are quite showy.

67585. No. 517. February 19, 1926. Seeds obtained from large fruits bought as a vegetable at the market at Medan.

67586. *PHRYNIUM* sp. Marantaceae.

No. 512. Sibolangit. February 25, 1926. An ornamental bearing beautiful light-blue berries, which should prove very useful for borders where large leaves are desired.

67537 to 67631—Continued.

67587. *PHYTOLACCA* sp. Phytolaccaceae.

Pokeberry

No. 399. Brestagi. February 21, 1926. An attractive pokeberry having red flowers, fruits, and stems.

67588. *PINUS MERKUSII* Jungh. and De Vr. Pinaceae. Pine.

No. 524. Lampehan. March 3, 1926. The giant Sumatra pine which covers a vast area of the poor volcanic soil in northern Sumatra. It grows to a height of 240 feet, is 4 feet in diameter, and yields a superior grade of turpentine and resin.

For previous introduction see No. 62271.

67589. *PTEROCARPUS INDICUS* Willd. Fabaceae. Padouk.

No. 520. From the roadside between Medan and Langsar. March 2, 1926. A splendid roadside tree producing yellow flowers which are very fragrant.

For previous introduction see No. 51821.

67590. *RHODODENDRON* sp. Ericaceae.

No. 470. Obtained near Takengon. March 3, 1926. A tall bush, 5 feet high, bearing glossy coriaceous leaves and large salmon-yellow flowers 3 inches long, which are blotched in the throat with red.

67591. *RHODODENDRON JAVANICUM* (Blume) Benn. Ericaceae.

No. 471. Obtained near Takengon. March 3, 1926. This bush, similar to No. 470 [No. 67590], is a smaller species, the leaves are not so large, and the flowers, which are red, have much shorter tubes.

67592 to 67604. *RUBUS* spp. Rosaceae.67592. *RUBUS MOLUCCANUS* L.

No. 456. From Brestagi. February 21, 1926. A plant producing rather small wine-red berries similar to *Rubus rosaeifolius* in appearance and taste.

67593. *RUBUS ALCAEFOLIUS* Poir.

No. 457. From Brestagi. February 21, 1926. A small yellow raspberry.

67594. *RUBUS ASPER* D. Don. Raspberry.

No. 458. Brestagi. February 21, 1926. An oblong yellow raspberry which is half an inch in diameter and about three-fourths of an inch long. The flavor is not especially good.

67595. *RUBUS ALCAEFOLIUS* Poir.

No. 461. Between Lho Senmawe and Takengon. March 1, 1926. A tall-growing thorny plant with large wine-red fruits, the individual drupelets being quite large. The leaves are mottled dark green on the upper surface and white tomentose below.

67596 and 67597. *RUBUS MOLUCCANUS* L.

67596. No. 462. Takengon. March 1, 1926. A tall, very thorny bush found on one of the high mountains. The fruit is of good size and bright wine red.

67597. No. 463. Takengon. March 1, 1926. The leaves of this plant are mottled green above and tomentose below. The small light golden-yellow fruits are very juicy and slightly acid.

67598. *RUBUS ELONGATUS* J. E. Smith.

No. 489. Between Bireun and Takengon. March 5, 1926. A beautiful climber with long drooping flower clusters and small glossy black berries. An extremely spiny species with very attractive foliage. The leaves are white tomentose below.

67537 to 67631—Continued.

67599 and 67600. *RUBUS MOLUCCANUS* L.

67599. No. 490. Between Bireun and Takengon. March 5, 1926. The leaves are very light green with a golden pubescence below, and the wine-red fruits are of fair flavor.

67600. No. 491. Between Bireun and Takengon. March 5, 1926. Variety *glomeratus*. A spiny trailing shrub of charming habit, which may have value as an ornamental. The leaves are pubescent and the fruits red.

67601. *RUBUS CHRYSOPHYLLUS* Reinw.

No. 526. Near Takengon. March 3, 1926. A very beautiful climber with light-red berries and leaves which are golden brown below.

67602. *RUBUS PYRIFOLIUS* J. E. Smith.

No. 538. Collected on the shore of Lake Tawar, near Takengon. March 4, 1926. An attractive scandent shrub, very spiny, which has large glossy oval leaves. The dark-red berries, with only two or three drupelets in each berry, do not have much flavor.

67603. *RUBUS MOLUCCANUS* L.

No. 657. Shore of Lake Tawar, near Takengon. March 9, 1926. A very handsome bush with few spines and leathery foliage, beautiful rusty yellow below.

67604. *RUBUS ALCAEFOLIUS* Poir. Rosaceae.

No. 668. Lake Tawar, near Takengon. March 9, 1926. A handsome bush growing on dry hillsides, worthy of cultivation because of its attractive foliage.

67605. *SAMBUCUS JAVANICA* Reinw. Caprifoliaceae. Elder.

No. 486. From the road between Takengon and Bireun. March 5, 1926. A black-berried species about 10 feet tall, producing coarse leaves and white flowers.

For previous introduction see No. 63377.

67606. *SAPINDUS RARAK* DC. Sapindaceae. Soapberry.

No. 435. Sibolangit Botanic Garden. February 22, 1926. A good-sized tree producing an abundance of very large round fruits which are larger than those of *Sapindus saponaria* or *S. mukorossi*. This may be a tropical source of saponin.

67607. *SOLANUM BIFLORUM* Lour. Solanaceae.

No. 398. Brestagi. February 21, 1926. A small bright-red fruit which looks distinctly ornamental.

67608. *SOPHORA TOMENTOSA* L. Fabaceae.

No. 436. From the island of Pulu We, near Sabang. February 17, 1926. A yellow-flowered beach-loving evergreen shrub with attractive foliage.

67609. *SPOROBOLUS* sp. Poaceae. Grass.

No. 531. Lampehan. March 3, 1926.

67610. *THYSANOLAENA MAXIMA* (Roxb.) Kuntze. Grass.

No. 528. Near Takengon. March 3, 1926. A very attractive grass with gray inflorescence resembling a puff of smoke.

For previous introduction see No. 61625.

67537 to 67631—Continued.

67611. *TRICHOSANTHES QUINQUANGULATA* A. Gray. Cucurbitaceae.

No. 530. Takengon. March 3, 1926. A vine with attractive white flowers and handsome foliage. The fruits are large and astonishingly brilliant red. This vine is very ornamental when seen in the jungle, hanging from tall forest trees.

For previous introduction see No. 49858.

67612. *TRICHOSANTHES* sp. Cucurbitaceae.

No. 485. From the road between Bireun and Takengon. March 5, 1926. A vine covering forest trees and producing egg-shaped fruits of an attractive deep orange color.

67613. *COLUMELLA GENICULATA* (Blume) Merr. Vitaceae.

No. 493. March 7, 1926. A scrambling vine covering vegetation by the roadside between Kota Dah and Takengon. The fruits are white and when green are very acid.

67614. *XIPHIDIUM* sp. Haemodoraceae.

No. 428. Sibolangit Botanic Garden. February 21, 1926. An attractive white-flowered plant resembling the iris. It should make a beautiful border plant in tropical gardens.

67615. *ZEA MAYS* L. Poaceae. Corn.

No. 395. From the market in Medan. February 19, 1926. A yellow flint corn said to have been grown in this vicinity.

67616 and 67617. *ZINZIBER* spp. Zinziberaceae. Ginger.67616. *ZINZIBER* sp.

No. 518. Sibolangit Botanic Garden. February 25, 1926. A plant having ornamental foliage.

67617. *ZINZIBER* sp.

No. 723. Sibolangit Botanic Garden. March 26, 1926. A plant having ornamental foliage.

67618. *SHUTERIA VESTITA* Wight and Arn. Fabaceae.

No. 432. Brestagi. February 22, 1926. A leguminous trailing plant found covering clay banks at a high altitude. The leaves are marked with light spots and are very attractive.

67619. *FLEMINGIA CONGESTA* Roxb. Fabaceae.

No. 469. A bushy legume, 3 feet high, found in dry volcanic sandy soil near Lampehan, March 3, 1926.

For previous introduction see No. 30878.

67620. *ARDISIA LANCEOLATA* Roxb. Myrsinaceae.

No. 474. March 5, 1926. A small attractive tree found in virgin forest near Baleg. The translucent shell-pink waxy bell-shaped flowers are very charming when in bud.

67621. *CAREX BACCANS* Nees. Cyperaceae.

No. 487. Between Bireun and Takengon. March 5, 1926. An ornamental sedge, useful for water gardens, with brilliant red fruits produced in long masses on upright stems.

67622. (Undetermined.)

No. 510. Sabang, island of Pulu We, north coast of Sumatra. February 17, 1926. An attractive low shrub with yellow fruits the size of peas.

67537 to 67631—Continued.

67623. *MEIBOMIA GYROIDES* (DC.) Kuntze
(*Desmodium gyroides* DC.). Fabaceae.

No. 525. Lampehan. March 3, 1926. A shrubby annual called "Asir Asir," which is native to northern Sumatra and is used as a protection crop to prevent the coarse grass from crowding out the seedlings of *Pinus merkusii*.

For previous introduction see No. 64177.

67624. *SAURAUJA VULCANI* Korth. Dilleniaceae.

No. 536. Shore of Lake Tawar, near Takengon. March 4, 1926. A shrub with broad thick leaves, white rather unattractive flowers, and fruits the size of small cherries which are green in color when ripe.

67625. *CURCULIGO CAPITULATA* (Lour.) Kuntze
(*C. recurvata* Ait.). Amaryllidaceae.

No. 548. Between Takengon and Bireun. March 6, 1926. An ornamental plant resembling the first broad undivided leaf of a palm. The leaves rise 3 feet from a rootstock, and among them is borne the head of yellow flowers. The fruits are white, succulent, ovoid berries, half an inch long, covered with spider-weblike brown hairs.

For previous introduction see No. 39665.

67626. (Undetermined.)

No. 651. Lho Senmawe. March 12, 1926. A tropical vine.

67627. *URARIA LAGOPODIODES* (L.) Desv. Fabaceae.

No. 660. Lho Senmawe. March 12, 1926. A pink-flowered cloverlike plant growing abundantly in wet land.

For previous introduction see No. 31719.

67628. (Undetermined.)

No. 664. From the road between Takengon and Bireun, at an altitude of 1,000 feet. March 11, 1926. An attractive small tree producing an abundance of large clusters of fruits.

67629. *LEEA RUBRA* Blume. Vitaceae.

No. 671. Found in moist places near Lho Senmawe. March 12, 1926. A shrub with flat corymbs of brilliant, deep-red flowers which are followed by large bunches of reddish to blue-black berries.

67630. (Undetermined.)

No. 680. Near Lho Senmawe. March 11, 1926. A cannalike plant with attractive red fruits.

67631. (Undetermined.)

No. 683. From northern Sumatra. March 26, 1926. A leguminous plant.

67632 to 67640.

From Ventimiglia, Italy. Seeds presented by S. W. McLeod Braggins, superintendent, La Mortola. Received June 2, 1926.

67632. *ANTHOLYZA AETHIOPICA* L. Iridaceae.

No. 181. An irislike plant, from the Cape of Good Hope, with a branched stem about 3 feet high, sword-shaped leaves a foot or so long, and red and yellow flowers about 2 inches long in rather dense spikes up to 9 inches in length.

67633. *ARTEMISIA ARGENTEA* L'Herit. Asteraceae. Wormwood.

No. 204. An erect shrubby perennial a foot or two high, with pinnate silvery leaves and panicles of nodding globular heads of yellow flowers. Native to Madeira.

67632 to 67640—Continued.

67634. *ARTEMISIA VULGARIS* L. Asteraceae. Mugwort.

No. 207. Italian-grown seeds.

67635. *BAUHINIA YUNNANENSIS* Franch. Caesalpiniaceae.

No. 249. A vigorous climber from southwestern China; the rounded two-parted leathery leaves are 1½ inches long. The flowers, rosy white striped with purple, are in many-flowered pendulous racemes.

67636. *CISTUS FLORENTINUS* Lam. Cistaceae. Rockrose.

No. 442. A dwarf shrub, a hybrid between *Cistus monspeliensis* and *C. salvifolius*. It has very narrow leaves and white flowers.

67637. *CISTUS PURPUREUS* Lam. Cistaceae. Rockrose.

No. 451. A shrub, 4 feet or less in height, a hybrid between *Cistus ladaniferus* and *C. villosus*. The narrowly oblong leaves are wrinkled above, and the lilac-purple flowers with yellow petal bases are 3 inches across and usually in threes.

67638. *CLERODENDRUM TRICHOTOMUM FARGESII* (Dode) Rehder. Verbenaceae.

No. 509. A rapid-growing Chinese shrub, with dark-green or purplish strongly veined oval leaves and fragrant whitish flowers, borne in summer in panicles. The globular, peacock-blue fruits, about the size of peas, are set on the purple or crimson persistent calyx.

For previous introduction see No. 44533.

67639. *HYPERICUM HOOKERIANUM* Wight and Arn. Hypericaceae.

No. 984. A compact shrub up to 6 feet high, with bright reddish brown branches, evergreen leaves 1 to 4 inches long, and many-flowered corymbs of large golden-yellow flowers, each about 2 inches across. Native to the Himalayas.

For previous introduction see No. 35999.

67640. *PRUNUS CONRADINAE* Koehne. Amygdalaceae. Conradina cherry.

No. 1462. A graceful tree, about 25 feet high, native to central China, with doubly serrate, oval-oblong leaves up to 6 inches long, and cymes of whitish or pink flowers which appear before the leaves.

For previous introduction see No. 45215.

67641 to 67647.

From Java. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received June 28, 1926.

67641. *CITRUS GRANDIS* (L.) Osbeck (*C. decumana* Murr.). Rutaceae. Grapefruit.

No. 773. Purchased in the market at Kediri. May 10, 1926. A large light-yellow fruit which is inclined to be slightly pear shaped. The dark-pink flesh, which separates easily from the partition walls, is of a refreshing mild acid flavor.

67642. *DURIO ZIBETHINUS* Murr. Bombacaceae. Durian.

No. 774. Purchased in the market at Kediri. May 10, 1926. A deliciously flavored fruit.

For previous introduction see No. 51464.

67643 and 67644. *GARCINIA MANGOSTANA* L. Clusiaceae. Mangosteen.

67641 to 67647—Continued.

67643. No. 776. From the market at Kediri. May 10, 1926. The largest mangosteen fruits I have ever seen, the largest being 24 centimeters in circumference.

67644. No. 777. May 15, 1926. Seeds from ordinary-sized fruits served in the hotel at Suerabaya.

67645. *LANSIUM DOMESTICUM* Jack. Meliaceae. Langsat.

No. 778. May 17, 1926. A fruit of large size and fine quality, bought on the street in Malang.

67646. *LITCHI CHINENSIS* Sonner. (*Nephelium litchi* Cambess.). Sapindaceae. Lychee.

No. 775. Seeds of fresh fruits, which are light red, from a tree growing at the hillside residence of the Sultan of Solo, in Harangpandan, at an altitude of 3,000 feet.

67647. *PAYENA* sp. Sapotaceae.

No. 779. From a tree in the grounds of the Beyerstein Hotel at Madioen. It is quite ornamental when loaded with its bright orange-red fruits which are the size of a robin's egg. These fruits are mealy and sweetish, but not of any great value.

67648. *COLEUS TUBEROSUS* (Blume) Benth. Menthaceae.

From Peradeniya, Ceylon. Tubers obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 26, 1926. Numbered June, 1926.

Nos. 312 and 364. Collected at the Royal Botanic Gardens, Peradeniya, January 15, 1926. *Innala*. The tubers of this low-growing herbaceous plant are about an inch long and one-half inch in diameter, and are very nutritious. In Ceylon they are boiled like potatoes.

67649 to 67668.

From Leningrad, Russia. Seeds presented by A. Kol, chief, bureau of introduction, Institute of Applied Botany, through J. W. Pincus, Amtorg Trading Corporation, New York, N. Y. Received June 28, 1926.

67649 to 67656. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

67649. No. 10205. *Bykovsk.* From Stalin-grad.

67650. No. 10206. *Murashka.* From the region of Kamyshinsk, in Lower Povolsh.

67651. No. 10207. *Azhinovski.* From Khutor Azhinof, Donsk.

67652. No. 10208. *Farm's Favorite.* From Kharkof Government.

67653. No. 10209. *Monastery.* From Kher-son Government.

67654. No. 10210. *Kuban King.* From Ku-ban Province.

67655. No. 10211. *Early.* From Voronezh Government.

67656. No. 10214. *Fodder.* Obtained at the Ekaterinosk agricultural exhibition.

67657 to 67661. *CUCUMIS MELO* L. Cucurbita-ceae. Melon.

67657. No. 10215. *Dubovka.* From Stalin-grad Government.

67658. No. 10216. *Queen Melon.* From Kharkof Government.

67659. No. 10217. *Kochanaya* (Komovka). From Astrakhan Government.

67649 to 67668—Continued.

67660. No. 10218. *Quick Maturing.* From Saratov Government.

67661. No. 10219. *Kuban Cantaloup.* From Kuban Province.

67662 to 67668. *CUCURBITA* spp. Cucurbitaceae.

67662 to 67664. *CUCURBITA MAXIMA* Du-chesne. Squash.

67662. No. 10221. *Volzhanka.* From the Saratov Government.

67663. No. 10223. *Whale.* Obtained at the All-Russian agricultural exhibition at Moscow.

67664. No. 10224. *Table Chalmavaya.* From Saratov Government.

67665. *CUCURBITA MOSCHATA* Duchesne. Cushaw

No. 10230. *Perekhvotka.* From Astra-khan Government.

67666 to 67668. *CUCURBITA PEPO* L. Pumpkin.

67666. No. 10226. *Honey.* From Saratov Government.

67667. No. 10227. *Golosemanaya.* From Ekaterinoslav Government.

67668. No. 10228. *Squash* (Greek). From Astrakhan Government.

67669 to 67797.

From the Dutch East Indies and Ceylon. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May and June, 1926.

67669. *AGATI GRANDIFLORA* (L.) Desv. (*Sesbania grandiflora* Poir.). Fabaceae.

No. 750. March 31, 1926. Seeds from trees 35 feet high, which were planted in rows near Medan, Sumatra, for the production of the white succulent flowers which are used extensively as a vegetable in the Orient. This variety grows very rapidly.

For previous introduction see No. 61778.

67670. *TETRASTIGMA* sp. Vitaceae.

No. 623. Simpang Tiga, Sumatra. March 11, 1926. Very strong-growing vines which climb to the tops of large trees. The almost round berries, a little flattened, are half an inch in diameter and juicy, with somewhat of a grape flavor. They are blue black when ripe.

67671. *ARALIA JAVANICA* Miquel.

No. 615. En route from Pang Mop to Lomot, Sumatra. March 10, 1926. An attractive tall-growing prickly stemmed plant with large compound serrate leaves and umbels of small flowers.

67672. *ARALIA* sp.

No. 647. Along the trail from Blang Kedje-ren to Kongke, Sumatra. March 17, 1926. A plant 20 feet or more in height.

67673. *ARTOCARPUS ELASTICA* Reinw. Mo-raceae.

No. 712. Sibolangit Botanic Garden, Su-matra. March 26, 1926. A tree which grows to a height of 40 meters. The young trees furnish a fiber, and the latex is a remarkable bird lime. The fruits are eaten by the natives of Sumatra.

67669 to 67797—Continued.

67674. *BEGONIA AREOLATA* Miquel. Begoniaceae.

No. 569. En route from Kota Dah (Tsag) to Pang Mop, Sumatra. March 8, 1926. A tall-growing form with red hairy stems. The leaves are green with reddish-brown veins below, and the flowers are white and pinkish.

67675. *BEGONIA* sp. Begoniaceae.

No. 636. Kota Kenjaran, Sumatra. March 12, 1926. A small white or slightly pink-flowered begonia.

67676. *BERBERIS NAPAULENSIS* (DC.) Spreng. Berberidaceae. **Barberry.**

No. 617. En route from Pang Mop to Lomot, Sumatra. March 10, 1926. A fine ornamental shrub which grows to a good size, with stiff, bright-green leaves having sharp thorns, yellow flowers, and maroon-colored berries.

For previous introduction see No. 60638.

67677. *BISCHOFIA TRIFOLIATA* (Roxb.) Hook. (*B. javanica* Blume). Euphorbiaceae.

No. 701. March 24, 1926. The gadok of Java and the tjingkam of Sumatra is said to be one of the very finest timbers in Sumatra, though not used there as a tree for forest plantings. It is now being largely planted in Java. A single specimen at Little River, Fla., made a splendid shade tree. This tree is recommended for street planting in frostless or nearly frostless localities.

For previous introduction see No. 61596.

67678. *CAESALPINIA SEPIARIA* Roxb. Caesalpinaceae. **Mysore thorn.**

No. 728. Found on a roadside near Haranggaol, northern Sumatra. March 24, 1926. A yellow-flowered spiny shrub, with recurved spines and pinnate leaves, which produces a great abundance of deep-brown pods containing egg-shaped beans.

For previous introduction see No. 49200.

67679. *CASUARINA RUMPHIANA* Miquel. Casuarinaceae.

No. 764. From the Sultan's zoological garden at Soerakarta, Java. May 1, 1926. A rather scraggly tree with very slender delicate pendent green branches and cones having few seeds.

- 67680 to 67682. *CASSIA* spp. Caesalpinaceae.

67680. *CASSIA LAEVIGATA* Willd. **Smooth senna.**

No. 687. Sumatra. March 22, 1926. A handsome yellow-flowered shrub or small tree with dark-green glossy evergreen foliage.

67681. *CASSIA LAEVIGATA* Willd. **Smooth senna.**

No. 703. Hakgala Botanic Garden, Newara Eliya, Ceylon. February, 1926. A handsome yellow-flowered shrub or small tree with dark-green, glossy evergreen foliage.

For previous introduction see No. 55599.

67682. *CASSIA TOMENTOSA* L. f. **Woolly senna.**

No. 702. Hakgala Botanic Garden, Newara Eliya, Ceylon. February, 1926. The ranawara of the Singhalese, which grows rapidly into a large yellow-flowered shrub, is found wild in the dry portions of northern Ceylon. The bark is chiefly used in India for tanning purposes, and the leaves and young pods are eaten as a vegetable. The leaves are also used for making tea.

67669 to 67797—Continued.

67683. *CASUARINA EQUISSETIFOLIA* Stickm. Casuarinaceae.

No. 759. Planted along the roadside of the Dijeng Plateau, near Wonosobo, Java, at an altitude of 6,000 feet. April 25, 1926. A small handsome tree with a prettier habit of growth than that of our *Casuarina* in southern Florida.

For previous introduction see No. 30380.

67684. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. **Watermelon.**

No. 782. From the market at Soerabaya, Java. May 17, 1926. A remarkable tropical melon, 8 by 10 inches and oval in shape, which resembles a squash, having a ribbed surface. The skin is dark green and the flesh is light yellow and very spongy, having an agreeable flavor.

- 67685 to 67687. *CITRUS GRANDIS* (L.) Osbeck (*C. decumana* Murr.). Rutaceae. **Grapefruit.**

67685. No. 742. From the Hotel Haman at Bandoeng, Java. April 18, 1926. *Djeroek bali*. A beautiful red-fleshed variety. The dividing integument between the segments was a beautiful shade of pink.

67686. No. 743. Bandoeng, Java. April 18, 1926. A large red-fleshed variety known in Bandoeng as "djeroek bali." Although this variety is said to be identical with No. 742 [No. 67685] the flesh was neither so dark nor so juicy.

67687. No. 744. A deep pink-fleshed variety from a tree in a private garden at Bandoeng, Java. April 18, 1926.

67688. *CITRUS* sp. Rutaceae.

No. 631. March 12, 1926. A wild citrus plant found along the trail near Kota Kenjaran, Sumatra. The tree is about 6 inches in diameter and 30 feet or more high. The fruits are practically round, 4½ inches in diameter, with smooth skin about three-fourths of an inch thick. The flesh is very sour and bitter.

67689. *CLEMATIS PANICULATA* Thunb. Ranunculaceae. **Sweet autumn clematis.**

No. 748. From a private garden in Noesa Kambangan, Java. April 20, 1926. A large-flowered strain.

67690. *CROTALARIA STRIATA* DC. Fabaceae.

No. 726. Haranggaol, northern Sumatra. March 24, 1926. A native species which has been almost supplanted by other *Crotalaria*s.

For previous introduction see No. 65295.

67691. *CURCULIGO CAPITULATA* (Lour.) Kuntze (*C. recurvata* Ait.). Amaryllidaceae.

No. 716. Sibolangit Botanic Garden, Sumatra. March 26, 1926. A shade-loving plant with immense undivided leaves, 4 feet long, rising from the rhizome.

For previous introduction see No. 39665.

67692. *CYNOMETRA CAULIFLORA* L. Caesalpinaceae.

No. 747. From the market in Tegal, Java. April 19, 1926. *Namnam*. A curious tree producing an abundance of greenish yellow fruits which are the shape of triangular apple tarts. They have a tart taste with little character, but when cooked are said to make excellent pies. These fruits are produced from knot-like excrescences on the trunk, often near the ground.

For previous introduction see No. 44895.

67669 to 67797—Continued.

67693 and 67694. *CYPHOMANDRA BETACEA* (Cav.) Sendt. Solanaceae. Tree tomato.

67693. No. 704. Hakgala Botanic Garden, Newara Eliya, Ceylon. February, 1926. A blood-red variety of the tree tomato which is grown extensively in the highlands of Sumatra. It seems to have more flavor than the yellow variety and is used here for jelly making.

67694. No. 705. A red variety obtained in a garden in Kabandjahe, Sumatra. March 22, 1926.

67695. *EUONYMUS JAVANICA* Blume. Celastraceae.

No. 645. Variety *sphaerocarpus*. Kongke, Sumatra. March 17, 1926. A rather tall upright tree with beautiful green leaves and dark-pink angular fruits containing small black seeds with orange arillas.

67696 to 67705. *FICUS* spp. Moraceae.

67696. *FICUS FULVA* Reinw.

No. 556. Collected between Takengon and Koeto Tchane, near Kabandjahe, Sumatra, March 7, 1926. A small tropical tree with dense foliage and yellow-red fruits about three-fourths of an inch in diameter. Native to Burma and the East Indies.

67697. *FICUS* sp.

No. 577. March 8, 1926. An oblong yellow-spotted fruit of good size, picked up from along the trail between Kota Dah (Tsag) and Pang Mop, Sumatra.

67698. *FICUS* sp.

No. 578. March 8, 1926. A rather small, oblong, reddish yellow fruited fig, picked up along the trail between Kota Dah (Tsag) and Pang Mop, Sumatra.

67699. *FICUS* sp.

No. 619. En route from Lomot to Sim-pang Tiga, Sumatra. March 11, 1926.

67700. *FICUS AMPELOS* Burm. f.

No. 640. Kota Kenjaran, Sumatra. March 12, 1926. A large tree with good-sized leaves and small yellowish red to deep red fruits.

For previous introduction see No. 67560.

67701. *FICUS BENJAMINA* L.

No. 641. En route from Kota Kenjaran to Blang Kedjeren, Sumatra. March 14, 1926. A large fine-looking tree with small leaves and very small fruits.

For previous introduction see No. 41438.

67702. *FICUS PARIETALIS* Blume.

No. 644. En route from Kota Kenjaran to Blang Kedjeren, Sumatra. March 14, 1926. A good-sized well-formed tree which was loaded with deep golden-yellow fruits one-half to three-fourths of an inch in diameter. The large oblong leaves are shiny deep green above and dull green below.

For previous introduction see No. 67561.

67703. *FICUS ROSTRATA* Lam.

No. 649. En route from Blang Kedjeren to Kongke, Sumatra. March 17, 1926. This attractive bright-orange fruited fig is one of the smallest fruited varieties we have seen. With the exception of the color, this small shrub resembles a holly.

67669 to 67797—Continued.

67704. *FICUS* sp.

No. 695. En route from Kongke to Meloeoeh, Sumatra. March 18, 1926. Yellowish red fruits, $1\frac{1}{2}$ inches in diameter, found under a good-sized tree.

67705. *FICUS KALLICARPA* Miquel.

No. 699. En route from Kongke to Meloeoeh, Sumatra. March 18, 1926. A beautiful creeper covering a large stump in the virgin forest. The leaves are large, leathery, and dark green, the scarlet fruits spotted with a lighter color are $2\frac{1}{2}$ by 3 inches, and not edible; the seeds are elongated.

For previous introduction see No. 67559.

67706 and 67707. *GARCINIA ATROVIRIDIS* Griffith. Clusiaceae.

A large tree 50 feet tall with stiff, horizontal, finally drooping branches and medium-sized bright-red leaves. The bright deep-yellow fruits, 4 inches in diameter, are furrowed into a number of segments like a melon. These segments fall apart when the fruits are ripe, disclosing the seeds which are covered with a slimy yellow arillus, pleasant but very sour. When dried the segments of the the rind are used to give a sour taste to curries.

67706. No. 713. Sibolangit Botanic Garden, Sumatra. March 26, 1926.

67707. No. 745. Kabandjahe, Sumatra. March 28, 1926.

67708. *GARCINIA MANGOSTANA* L. Clusiaceae. Mangosteen.

No. 746. Seeds from fruits obtained in the market at Tegal, Java. April 19, 1926.

67709. *HYDRANGEA OBLONGIFOLIA* Blume. Hydrangeaceae.

No. 616. En route from Pang Mop to Lomot, Sumatra. March 10, 1926. A beautiful shrub 30 feet or more in height, with leaves white tomentose below and dark green above, having red stems and veins. The pink buds open into white flowers.

67710. *HYDRANGEA* sp. Hydrangeaceae.

No. 768. On the trail to the Dijeng Plateau, Java. An ornamental shrub cultivated in Java at high altitudes, ranging around 6,000 feet.

67711. *IMPATIENS* sp. Impatiensaceae. Snapweed.

No. 601. Pang Mop, Sumatra. March 9, 1926. A handsome herbaceous plant with leaves rich green above and reddish below, produced on red stems. The flowers are bright red and very showy.

67712. *IMPATIENS* sp. Impatiensaceae. Snapweed.

No. 602. Pang Mop, Sumatra. March 9, 1926. A yellow-flowered attractive plant which is more common than the red.

67713. *INDIGOFERA CONFUSA* Prain and Baker (*I. arrecta* Benth., not Hochst.). Fabaceae. Indigo.

No. 725. Haranggaol, Sumatra. March 24, 1926. A shrubby indigo growing on the shore of Toba Sea.

For previous introduction see No. 31848.

67714. *LAGERSTROEMIA SPECIOSA* (Muenchh.) Pers. (*L. flosreginae* Retz.). Lythraceae. Queen crape myrtle.

No. 733. Sibolangit Botanic Garden, Sumatra. March 28, 1926. An unusually large-flowered form of this superb tree, the flowers being $2\frac{1}{2}$ inches across and of the loveliest purple pink.

For previous introduction see No. 59315.

67669 to 67797—Continued.

67715. *LANSIUM DOMESTICUM* Jack. *Meliaceae*.
Langsat.

No. 751. From the market in Wonosobo, Java. April 23, 1926. *Doekoe*. A refreshing fruit with a mildly acid flavor which seems to be a great favorite with the Javanese. It has an unusually waxy texture and is very pleasant to the touch.

For previous introduction see No. 61899.

67716. *MEIBOMIA GYROIDES* (DC.) Kuntze
(*Desmodium gyroides* DC.). *Fabaceae*.

No. 727. Near Haranggaol, Sumatra. March 24, 1926. An attractive bush with dense clusters of flowers in two shades of blue.

For previous introduction see No. 64177.

67717. *MIMUSOPS* sp. *Sapotaceae*.

No. 784. Solo market, Java. May 17, 1926. A handsome shade tree, 50 feet tall, with olive-green obovate leaves which are a lighter color below. The red egg-shaped fruits, 1½ inches in length, remind one of a quite dry sapodilla in flavor and texture.

67718. *MIMUSOPS* sp. *Sapotaceae*.

No. 785. Solo market, Java. May 17, 1926. The fruits from which these seeds were taken were larger, more brilliant in color, and rounder than No. 784 [No. 67717].

67719. *MUSA GLAUCA* Roxb. *Musaceae*.
Banana.

No. 721. Sibolangit Botanic Gardens, Sumatra. March 26, 1926. A striking plant producing a leafy inflorescence. When planted in rich soil the plant becomes enormous. The flower clusters are a mass of leaves, hiding the small nonedible fruits which contain large black seeds.

67720. *NICOTIANA TABACUM* L. *Solanaceae*.
Tobacco.

No. 767. March 25, 1926. A high-altitude tobacco growing at an altitude of 6,000 feet in the Djeng Plateau, Java.

67721. *PANICUM PALUDOSUM* Roxb. *Poaceae*.
Grass.

No. 730. Lake Toba, Sumatra. March 24, 1926. A fodder grass which makes a good growth if grown in moist soil. Horses are very fond of this grass and will wade into the swamps to get it.

67722. *PASPALUM CONJUGATUM* Berg. *Poaceae*.
Grass.

No. 634. Kota Kenjarian, Sumatra. March 12, 1926. A creeping perennial grass with the flowering stems sometimes 3 feet tall. This species, originally from Dutch Guiana, is found in moist places in the Tropics of both hemispheres and forms extensive and close mats.

For previous introduction see No. 62245.

67723. *PASPALUM LONGIFOLIUM* Roxb. *Poaceae*.
Grass.

No. 686. Scattered on the embankment along the roadside between Kabandjahe and Siantar, Sumatra. March 22, 1926. A perennial tufted grass, native to southeastern Asia.

For previous introduction see No. 31600.

67724. *PASSIFLORA FOETIDA* L. *Passifloraceae*.

No. 694. En route from Kongke to Melewoen, Sumatra. March 18, 1926. A passion fruit with small purple flowers and delicately flavored yellow fruits, one-half to three-fourths of an inch in diameter.

For previous introduction see No. 50618.

67669 to 67797—Continued.

67725 to 67727. *RHODODENDRON* spp. *Ericaceae*.

67725. *RHODODENDRON JAVANICUM* (Blume) Benth.

No. 592. Pang Mop, Sumatra. March 9, 1926. An attractive variety with quite large pink and white flowers.

67726. *RHODODENDRON* sp.

No. 593. Pang Mop, Sumatra. March 9, 1926. A very showy rhododendron with the interior of the white flowers tinged pink and a dark purple spot at the base.

67727. *RHODODENDRON CITRINUM* Hassk.

No. 594. Pang Mop, Sumatra. March 9, 1926. An attractive small-leaved variety with very light-yellow small flowers.

67728 to 67740. *RUBUS* spp. *Rosaceae*.

67728. *RUBUS CHRYSOPHYLLUS* Reinw.

No. 758. Djeng Plateau, Java. April 25, 1926. A handsome plant with leaves which are rusty or gold below. The fruits are brilliant red and very juicy, though rather too acid to be acceptable.

67729. *RUBUS LINEATUS* Reinw.

No. 757. Djeng Plateau, Java. April 25, 1926. A very handsome plant with palmately divided leaves and clusters of large pinkish-yellow fruits three-fourths of an inch across, which are of an agreeable flavor.

For previous introduction see No. 59667.

67730. *RUBUS MOLUCCANUS* L.

No. 753. Wonosobo, Java. April 23, 1926. A stout prickly bramble, native to the Himalayas at altitudes of 3,000 to 7,000 feet with brilliant red, globose fruits of good size and appearance, but with too little flavor to be popular.

For previous introduction see No. 49653.

67731. *RUBUS NIVEUS* Thunb.

No. 756. Djeng Plateau, Java. April 25, 1926. A variety called "Kala koetjet" by the Javanese; it is found in the higher mountain regions of eastern and middle Java. The dark-colored berries have a fair flavor.

For previous introduction see No. 64214.

67732. *RUBUS ACUMINATISSIMUS* Hassk.

No. 560. En route from Takengon to Kota Dah (Tsag), Sumatra. March 7, 1926. A very thorny strong grower producing large orange-yellow fruits, three-fourths to an inch in diameter, on a very large receptacle. These fruits are watery and not of very good quality.

67733. *RUBUS ASPER* D. Don.

No. 571. En route from Kota Dah (Tsag) to Pang Mop, Sumatra. March 8, 1926. A strong grower with hairy stems and branches and long narrow yellow fruits.

67734. *RUBUS* sp.

No. 589. Pang Mop, Sumatra. March 9, 1926. A strong-growing, thornless plant with peculiarly parallel-veined leaves, which produces an abundance of light-yellow fruits.

67735. *RUBUS LINEATUS* Reinw.

No. 590. Pang Mop, Sumatra. March 9, 1926. A stout bush which bears large orange-yellow fruits of excellent flavor. The bush is very ornamental.

For previous introduction see No. 59667.

67669 to 67797—Continued.

67736. *RUBUS CHRYSOPHYLLUS* × *MOLUCCANUS*.

No. 610. En route from Pang Mop to Lomot, Sumatra. March 10, 1926. A strong-growing, thorny plant which is a free fruiter. The leaves are green above and rusty tomentose below.

67737. *RUBUS* sp.

No. 626. Simpang Tiga, Sumatra. March 11, 1926. A strong-growing plant with thin green leaves and recurved spines, producing large round orange berries.

67738. *RUBUS ASPER* D. Don.

No. 628. Simpang Tiga, Sumatra. March 11, 1926. This plant is a strong grower and has small thin green leaves and an abundance of recurved thorns. The golden yellow berries, three-fourths of an inch in diameter and 1¼ inches long, are very handsome.

67739. *RUBUS PYRIFOLIUS* J. E. Smith.

No. 684. Between Kalandjaja and Koto Tchane, Sumatra. March 19, 1926. A spiny-stemmed climber about 20 feet long, with shiny dark-green scattered leaves and flowers in terminal clusters 6 inches long. The brilliant-red sour berries mature only a few drupelets.

67740. *RUBUS MOLUCCANUS* L.

No. 698. En route from Kongke to Meloe-woeh, Sumatra. March 18, 1926. A semi-scandent shrub with few spines, rugose cordate leaves, deep green above and russet or golden tomentose below, and light-yellow fruits.

For previous introduction see No. 49653.

67741. *SAMBUCUS JAVANICA* Reinw. Caprifoliaceae. Elder.

No. 629. Simpang Tiga, Sumatra. March 11, 1926. A vigorous variety producing small black fruits.

For previous introduction see No. 63377.

67742. *SAPINDUS RARAK* DC. Sapindaceae. Soapberry.

No. 435. Sibolangit Botanic Garden, Sumatra. February 22, 1926.

For previous introduction and description see No. 67606.

67743. *SOLANUM* sp. Solanaceae.

No. 611. En route from Pang Mop to Lomot, Sumatra. March 10, 1926. An ornamental vine producing small, bright-red fruits about the size of a cherry.

67744. *SOLANUM* sp. Solanaceae.

No. 622. Simpang Tiga, Sumatra. March 11, 1926. A slender vine with small leaves and yellow fruits about the size of a cherry.

67745. *STROPHANTHUS GRATIS* (Wall. and Hook.) Baill.

No. 749. Noesa Kambangan, Java. April 20, 1926. A rank-growing woody creeper with pinkish white flowers in terminal clusters and enormous fruits nearly 3 feet in length.

67746. *THYSANOLAENA MAXIMA* (Roxb.) Kuntze. Poaceae. Grass

No. 685. Between Kalandjaja and Koto Tchane, Sumatra. March 20, 1926. An ornamental tropical grass, 8 to 10 feet high, which grows wild in the mountainous regions of northern India. The great masses of pinkish gray panicles give the huge clumps a handsome appearance during about four months of the year.

For previous introduction see No. 61625.

67669 to 67797—Continued.

67747. *VACCINIUM* sp. Vacciniaceae.

No. 763. Dijeng Plateau, Java. April 25, 1926. An attractive bush producing brilliant scarlet flowers and small black fruits with little flavor, found abundantly on the very edge of a large fumarole where the leaves were splashed with warm mud.

67748. *COLUMELLA GENICULATA* (Blume) Merr. Vitaceae.

No. 555. Between Kota Dah (Tsag) and Takengon, Sumatra. March 7, 1926. A variety producing light-pink fruits which are very juicy and sweet.

For previous introduction see No. 67613.

67749 and 67750. *ZEA MAYS* L. Poaceae. Corn.

67749. No. 729. March 24, 1926. A native Battak corn taken from a corncrib in a small village not far from Seribloedok, near Lake Toba, Sumatra.

67750. No. 791. Obtained in the market at Soerabaya, Java. May 17, 1926. A flint type of Indian corn probably from the cornfields of Madoera where the soil is quite calcareous and the rainfall light, not over 40 or 50 inches.

67751. *ZIZIPHUS MAURITIANA* Lam. Rhamnaceae. Bor.

No. 783. Obtained in the market at Soerabaya, Java. May 16, 1926. An egg-shaped, brownish-yellow, tropical fruit not over 2 centimeters long, with an acid flavor.

For previous introduction see No. 60458.

67752. *CLERODENDRUM BRACTEATUM* Wall. Verbenaceae.

No. 551. Between Takengon and Kota Dah (Tsag), Sumatra. A soft-wooded shrub or small tree with white flowers and purple seeds produced in a red receptacle. The native name is Tjelala bosenga.

67753. *LEUCOSYKE* sp. Urticaceae.

No. 552. Between Takengon and Kota Dah (Tsag), Sumatra. March 7, 1926. A handsome tree 40 to 60 feet tall, with bright-green leaves, red petioles, and clusters of round, green mottled fruits about one-half to three-fourths of an inch in diameter.

Numbers 67754 to 67763 were collected en route from Takengon to Kota Dah (Tsag), Sumatra.

67754. *DEBREGEASIA LONGIFOLIA* (Burm.) Wedd. Urticaceae.

No. 553. March 7, 1926. A shrubby plant with leaves green above and white below. The small, sweet, orange-yellow fruits, edible though not especially good, are borne along the branches.

67755. *PETUNGA* sp. Rubiaceae.

No. 554. March 7, 1926. *Sengkewa*. A rather tall, handsome tree with leaves about 8 inches long and clusters of green and white fruits resembling coffee.

67756. *OPHIORRHIZA LONGIFLORA* Blume. Rubiaceae.

No. 557. March 7, 1926. A low-growing herbaceous plant with terminal clusters of attractive white flowers.

67757. (Undetermined.)

No. 561. March 7, 1926. A small tree with deep-green leaves, white flowers, and clusters of large, triangular orange fruits.

67669 to 67797—Continued.

67758. *ARDISIA CRISPA* (Thunb.) A. DC. Myrsinaceae.

No. 562. March 7, 1926. A small shrub, 6 to 8 feet high with lanceolate green leaves and very showy bright-red fruits.

For previous introduction see No. 48304.

67759. *PYGEUM LATIFOLIUM* Miquel. Amygdalaceae.

No. 564. March 6, 1926. A small tree with small dark-green leaves and dark-red, 1-seeded fruits.

67760. *SONERILA* sp. Melastomaceae.

No. 565. March 6, 1926. A small white-flowered herbaceous plant, 12 to 20 inches high, with beautiful leaves. The margins and upper surfaces are red and the lower surfaces silvery.

67761. *DIANELLA ENSIFOLIA* (L.) Red. Liliaceae.

No. 566. March 6, 1926. A long-leaved iris-like plant with the flower stems up to 3 or 4 feet, rather small flowers, and gorgeous purple seed pods.

For previous introduction see No. 49531.

67762. *CRAWFURDIA TRINERVIS* (Blume) Hassk. Gentianaceae.

No. 567. March 7, 1926. A low-growing vine with large oblong deep-red fruits, white inside, with many seeds. The flowers are probably small and white.

67763. (Undetermined.)

No. 568. March 7, 1926. One of the best timber trees in Sumatra, growing to a height of 200 feet or more and 3 or 4 foot in diameter. The small red plumlike fruits are juicy when fully ripe and fairly good but sour; they are eaten by birds.

Numbers 67764 to 67795 were collected in Sumatra.

67764. *SAPROSMA* sp. Rubiaceae.

No. 570. En route from Kota Dah (Tsag) to Pang Mop. March 8, 1926. A shrub or small tree with narrow lanceolate leaves dark green above and lighter beneath, bearing small clusters of oblong, rather small, yellow to red fruits.

67765. *ARDISIA LANCEOLATA* Roxb. Myrsinaceae.

No. 574. En route from Kota Dah (Tsag) to Pang Mop. A tree 12 to 30 feet high, with large yellowish-green leathery leaves and clusters of flattened dark-purple or black fruits. Each fruit contains one small round seed.

67766. *STERCULIA SPANGLERI* R. Br. Sterculiaceae.

No. 575. En route from Kota Dah (Tsag) to Pang Mop. March 8, 1926. A large, yellow-green leaved vine with very large showy capsules of three segments which, when ripe, spread out. The upper surfaces are brilliant velvety red and the lower surfaces dark salmon pink. The medium-sized black seeds hang from the edges of the segments.

67767. *PRATIA MONTANA* (Reinw.) Hassk. Campanulaceae.

No. 576. En route from Kota Dah (Tsag) to Pang Mop. March 8, 1926. A herbaceous plant with drooping branches, small lanceolate green leaves, and racemes of rather large, almost round, deep-purple to black fruits having sweet, snow-white flesh.

For previous introduction see No. 47764.

67669 to 67797—Continued.

67768. (Undetermined.)

No. 586. En route from Kota Dah (Tsag) to Pang Mop. March 8, 1926. A large tree having green, nutlike fruits with rough shells which contain a single white kernel.

67769. (Undetermined.)

No. 591. Pang Mop. March 9, 1926. A vine with thick heavy evergreen leaves and dense clusters of greenish to yellow fruits having sweet juicy white flesh.

67770. *DIPLYCOSIA HETEROPHYLLA* Blume. Ericaceae.

No. 595. Pang Mop. March 9, 1926. A thick leathery leaved vine with the upper surface of the leaves dark green and the lower surface a lighter green. The small fruits, which turn blue black when ripe, are borne in the axils of the leaves.

67771. (Undetermined.)

No. 597. Pang Mop. March 9, 1927. A small tree orchid with large beautiful pinkish flowers.

67772. *DIPLYCOSIA LATIFOLIA* Blume. Ericaceae.

No. 600. Pang Mop. March 9, 1926. A small shrub with attractive leaves and small brown berries.

67773. *SARCOPYRAMIS NAPAENSIS* Wall. Melastomaceae.

No. 603. Pang Mop. March 9, 1926. A herbaceous plant which grows in tufts, 12 to 15 inches in height, with red stems and leaves, producing an abundance of good-sized white and pink flowers.

67774. *MYRSINE SEMISERRATA* Wall. Myrsinaceae.

No. 604. Pang Mop. March 9, 1926. A small handsome shrub with round glossy green leaves, about half an inch across, and small dark-red fruits.

67775. *VACCINIUM LUCIDUM* (Blume) Miquel. Vacciniaceae.

No. 605. Pang Mop. March 9, 1926. An ornamental shrub with very small leaves and almost round black fruits. The tips of the branches are wine red.

67776. (Undetermined.)

No. 608. En route from Pang Mop to Lomot. March 10, 1926. A fruit somewhat resembling an apple, containing four angular oblong seeds.

67777. *MELIOSMA NITIDA* Blume. Sabiaceae.

No. 609. En route from Pang Mop to Lomot. March 10, 1926. A tree known locally as *kajor gading*. The trunk is 6 to 8 inches in diameter and 30 to 40 feet high; the medium-sized leaves are deep shiny green above and lighter green below; the red-brown fruits are about three-fourths of an inch in diameter, with sweetish white flesh which adheres to a single black seed.

67778. (Undetermined.)

No. 613. En route from Pang Mop to Lomot. March 10, 1926. A vine with small black fruits. The leaves, eight in number, are arranged in whorls at the ends of the branches.

67779. (Undetermined.)

No. 618. En route from Lomot to Simpang Tiga. March, 1926. A tree with oblong yellow red-seeded fruits which break into three segments.

67669 to 67797—Continued.

67780. *MELIOSMA NITIDA* Blume. *Sabiaceae*.

No. 620. Between Lomot and Simpang Tiga. March 11, 1926.

For previous introduction and description see No. 67770.

67781. (Undetermined.)

No. 621. Between Lomot and Simpang Tiga. March 11, 1926. A tree producing oblong green fruits, 1 inch or more in diameter and about 2 inches long, having three seed segments, two seeds in each cavity.

67782. *TINOSPORA* sp. *Menispermaceae*.

No. 624. Between Lomot and Simpang Tiga. March 11, 1926. A vine with dark-green leaves and racemes of bright-orange oblong fruits about three-fourths of an inch in diameter. The seeds are oblong, flattened, and have a depression on both sides.

67783. *DIPLYCOSIA PILOSA* Blume. *Ericaceae*.

No. 627. Simpang Tiga. March 11, 1926. A shrub with small, glossy green, lanceolate long-pointed leaves, tomentose underneath, and small purple fruits resembling blueberries.

67784. *POLYGALA VENENOSA* Juss. *Polygalaceae*.

No. 630. March 11, 1926. A plant 6 feet or more in height, found in the canyon along the trail to Simpang Tiga. It bears lavender seed pods of a peculiar shape and both purple and white flowers.

67785. (Undetermined.)

No. 634. To be grown to ascertain its horticultural value. Received without notes.

67786. (Undetermined.)

No. 635. Kota Kenjaran. March 12, 1926. A thorny vine with clusters of small red berries.

67787. *CHLORANTHUS BRACHYSTACHYS* Blume. *Chloranthaceae*.

No. 637. Simpang Tiga. March 12, 1926. A shrub bearing terminal clusters of bright-red berries which are very similar to holly berries.

67788. *ELAEAGNUS LATIFOLIA* L. *Elaeagnaceae*.

No. 642. En route from Kota Kenjaran to Blang Kedjeren. March 13, 1926. A small tree with rather small oval leaves, dark green above and lighter green below. The brown oblong fruits, about half an inch in diameter and 1 inch or more in length, have red flesh of a very good acid flavor, and long pointed, rather soft seeds which are markedly ribbed.

For previous introduction see No. 32940.

67789. *CORDIA MYXA* L. *Boraginaceae*.

No. 643. En route from Kota Kenjaran to Blang Kedjeren. March 13, 1926. A small tree with oval leaves and oval, pinkish fruits, one-half by three-fourths of an inch, set in a thin green cup, similar to that of an acorn. The flesh, surrounding a single seed, is white, gelatinous, and rather sweet.

For previous introduction see No. 43654.

67790. *ARDISIA VILLOSA* Roxb. *Myrsinaceae*.

No. 650. En route from Blang Kedjeren to Kongke. March 17, 1926. A small evergreen shrub with attractive small pink flowers in panicles and small red berries.

67669 to 67797—Continued.

67791. *MACARANGA TRILOBA* (Reinw.) Muell.-Arg. *Euphorbiaceae*.

No. 690. En route from Blang Kedjeren to Kongke. March 17, 1926. A tree 60 feet or more high, having palmate leaves and acute-lobed fruits with conical fruitlets, four together, each fruit containing one round black seed. These fruits are sticky and exude a fragrant substance.

67792. *COLUMELLA GENICULATA* (Blume) Merr. *Vitaceae*.

No. 691. En route from Blang Kedjeren and Kongke. March 17, 1926. A handsome trellis vine with large, broadly lanceolate, deep-green leaves and clusters of pink ovate fruits, three-fourths of an inch long, resembling coffee berries. Each fruit contains two flattened oval corrugated light-brown seeds.

For previous introduction see No. 67748.

67793. *CISSUS REPENS* Lam. *Vitaceae*.

No. 692. A vine climbing over shrubs along the trail between Blang Kedjeren and Kongke. March 17, 1926. The tips of the branches were wine colored, the leaves thin cordate and 2 inches long, and the clusters of fruits were wine red, turning to purple black.

67794. *ABROMA AUGUSTA* L. f. *Sterculiaceae*.No. 696. En route from Kongke to Meloewoeh. March 18, 1926. A herbaceous semishrub with large cordate, hairy leaves, small purple flowers and large angular seed pods, $1\frac{1}{2}$ inches across, containing large quantities of small black seeds.

For previous introduction see No. 64166.

67795. (Undetermined.)

No. 700. March 18, 1926. Fruits probably from a tall forest tree, found on the trail from Kongke to Meloewoeh. Yellow-purplish fruits, three-fourths by 1 inch, with white flesh adhering to plumlike seeds.

67796. *STELECHOCARPUS BURAHOL* (Blume) Hook. f. and Thoms. *Annonaceae*.

No. 762. April 29, 1926. A tree found in a private yard by the highway in Magelang, Java, producing hard, round fruits. This tree deserves to be grown especially for its young leaves, which are an attractive wine-red color.

67797. (Undetermined.)

No. 792. May 17, 1926. Sour, dull-magenta fruits the size of small grapes, from the market in Soerabaya, Java.

67798 and 67799.

From Paris, France. Plants presented by Vilmorin-Andrieux & Co. Received April 26, 1926.

67798. *FATSHEDERA LIZEI* Guillaumin. *Araliaceae*.A hybrid between *Fatsia japonica moseri*, a compact Japanese shrub with shining green leaves, and *Hedera helix hibernica*, a large-leaved Irish variety of English ivy.67799. *PIROCYDONIA DANIELI* Winkler. *Malaecae*.

A small shrub resembling the quince in general habit; originally cultivated by Lucian Daniel in the gardens of the Faculté des Sciences, at Rennes, France. According to Mr. Daniel this graft hybrid arose from an old pear grafted on quince stock.

For previous introduction see No. 62015.

67800 and 67801. IPOMOEA BATATAS (L.) Poir. Convolvulaceae.**Sweet potato.**

From China. Tubers obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 2, 1926.

67800. No. 363. January 23, 1926. *Paak faan shue*. A white-fleshed variety of good quality obtained at Yeunguk, Lungtau Mountain.

67801. No. 392. January 23, 1926. *Fan shue*. This variety is commonly cultivated in the vicinity of Shiuchow, where these tubers were obtained.

67802. LAUROCERASUS OFFICINALIS Roemer (Prunus laurocerasus L.). Amygdalaceae. Cherry laurel.

From Elstree, Herts, England. Plants presented by Vicary Gibbs, Aldenham House Gardens. Received February 12, 1926. Numbered June, 1926.

Variety *zabeliana*. A very free-flowering low-spreading evergreen shrub with narrow, flat foliage. (Edwin Beckett, Superintendent, Aldenham House Gardens.)

67803. AXONOPUS sp. Poaceae. Grass.

From Vicosia, Minas Geraes, Brazil. Plants presented by P. H. Rolfs, escola superior de agricultura e veterinaria. Received May 7, 1926.

A tufted perennial grass, native to Brazil. To be tested as a lawn grass in the United States.

67804. BERBERIS sp. Berberidaceae. Barberry.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 2, 1926.

No. 356. *Wong paak shue*. Seeds from wild plants found near Yeunguk, Lungtau Mountain, January 13, 1926. A shrub, 1 to 1.5 meters high, which is very ornamental with its persistent blue fruits and autumn-red leaves. The large leathery leaves have shiny upper surfaces and very spiny margins; the long swaying half-pendulous spikes are thickly covered with the bloom-covered fruits. The wood is bright yellow and is used in China as medicine.

67805 to 67834.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received June 29, 1926.

67805. ANOPTERUS GLANDCLOSUS Labill. Escalloniaceae.

A handsome evergreen Tasmanian shrub, sometimes a small tree 40 feet high in its native country. The thick narrow leaves, mostly at the ends of the branches, are 4 to 8 inches long, and the white flowers are in drooping terminal racemes. It is suitable for greenhouse culture, blooming in the spring.

For previous introduction see No. 66097.

67806. BELLENDENA MONTANA R. Br. Proteaceae.

A low bushy shrub, sometimes less than 6 inches high, with flat thick wedge-shaped leaves and small flowers in a dense terminal raceme. Native to Tasmania.

67807. BOSSIAEA CORDIGERA Benth. Fabaceae.

A straggling or trailing shrub, with opposite rounded cordate leaves about one-fourth inch wide. Native to Tasmania.

67805 to 67834—Continued.

67808. CASUARINA DISTYLA Vent. Casuarinaceae.

Unlike many of the better known casuarinas this species is usually a small shrub 2 to 3 feet high. It is common in Tasmania and in parts of Australia.

For previous introduction see No. 63765.

67809. CASUARINA STRICTA Ait. Casuarinaceae.

This tree, commonly cultivated in California but more rarely in Florida, is a fairly hardy species making a low, often shrubby growth. It is conspicuous on account of its very thick, often pendulous branchlets and very big cones. In appearance it is not so elegant as some of the other casuarinas, but it is very striking and is also of some economic value. The branchlets are said to be a favorite forage of Australian cattle. For shingles and posts the wood is especially valuable.

For previous introduction see No. 62017.

67810. CERMISIA LONGIFOLIA Cass. Asteraceae.

A herbaceous perennial which forms a dense tuft, with silvery hairy linear leaves and pink or white daisylike flowers on scapes up to 1½ feet long. Native to Australia and Tasmania.

67811. CERMISIA LONGIFOLIA SAXIFRAGA Benth. Asteraceae.

A variety of the preceding which is smaller in all its parts.

67812. CYATHODES DIVARICATA Hook. f. Epacridaceae.

A rigid juniperlike shrub with small, rigid, very narrow sharp-pointed leaves and white flowers on recurved stems. Native to Tasmania.

67813. DRIMYS LANCEOLATA (Poir.) Baill. (*D. aromatica* F. Muell.). Magnoliaceae.

The bark of this Tasmanian shrub or small tree, like that of its Chilean relative (*Drimys winteri*), possesses aromatic properties, and the round drupes, about the size of peas, are used as a condiment.

For previous introduction see No. 61327.

67814 to 67816. ELICHRYSUM spp. Asteraceae. Everlasting.

67814. ELICHRYSUM BACCHAROIDES F. Muell.

An erect much-branched shrub with small scalelike leaves and dense terminal corymbs of small yellow flower heads. Native to mountainous regions in southern Australia and Tasmania.

67815. ELICHRYSUM DIOSMAEFOLIUM (Vent.) Sweet.

A tall evergreen shrub, native to Australia and Tasmania, which becomes 20 feet high. The leaves are small and very narrow. The flowers, which are white, sometimes tinged with pink, are in dense terminal corymbs of small heads.

67816. ELICHRYSUM LEDIFOLIUM (A. Cunn.) Benth.

A handsome evergreen shrub about 8 feet high, with linear leaves about an inch long and small white flower heads in dense terminal corymbs. Native to Tasmania.

67817. EUCALYPTUS COCCIFERA Hook. f. Myrtaceae.

A handsome Tasmanian eucalypt with leaves of two forms—in young trees these are opposite, sessile, and oval, while in full-grown trees they are alternate stalked and very narrow. The young branches are nearly pure white.

For previous introduction see No. 50208.

67805 to 67834—Continued.

67818. *GAULTHERIA HISPIDA* R. Br. Ericaceae.

An erect spreading shrub 2 to 3 feet high, with the branches and midribs of the oblong leaves covered with hispid hairs. The white flowers are in dense terminal or axillary racemes. Native to Australia and Tasmania.

67819. *GENTIANA SAXOSA* Forst. f. Gentianaceae.

An erect annual gentian, found in many parts of Australia and Tasmania, with white or blue bell-shaped flowers.

67820. *HAKEA ACICULARIS LISSOSPERMA* Benth. Proteaceae.

A small evergreen tree or tall shrub, with rigid terete sharp-pointed leaves about 2 inches long and axillary clusters of white flowers. Native to Tasmania.

67821. *HIBBERTIA PROCUMBENS* (Labill.) DC. Dilleniaceae.

A prostrate, much-branched, yellow-flowered evergreen shrub from Australia, with very narrow leaves about half an inch long.

67822 to 67824. *LEPTOSPERMUM* spp. Myrtaceae.67822. *LEPTOSPERMUM MYRTIFOLIUM* Sieber.

A tall evergreen shrub, about 9 feet high, with small flat oblong leaves less than half an inch in length. The white solitary flowers are produced in the leaf axils. Native to Australia.

67823. *LEPTOSPERMUM PUBESCENS* Lam.

Variety *montanum*. A tall erect evergreen shrub or small tree with small oblong leaves, hairy on both sides, and solitary yellow flowers. Native to Tasmania.

67824. *LEPTOSPERMUM RUPESTRE* Hook. f.

A procumbent or prostrate evergreen shrub with small thick oblong leaves and small white flowers. Native to Tasmania at altitudes of 3,000 to 5,000 feet.

67825. *NOTHOFAGUS GUNNII* (Hook. f.) Oerst. Fagaceae.

A dense bushy evergreen shrub from Tasmania, where it is said to make an impenetrable scrub 5 to 8 feet high. The leaves, about half an inch long, are broadly oval or almost round.

67826 to 67828. *OLEARIA* spp. Asteraceae.67826. *OLEARIA LEDIFOLIA* (DC.) Benth.

A small evergreen thickly-branched shrub, with crowded narrowly oval leaves, silvery hairy beneath. Native to Tasmania.

67827. *OLEARIA PERSOONIOIDES* (DC.) Benth.

A low evergreen bush, 3 feet or less high, with small shining-green leaves, silvery beneath, and white asterlike flowers in numerous small heads. Native to Tasmania.

67828. *OLEARIA PINIFOLIA* (Hook. f.) Benth.

A rigid shrub with stout hairy branches and crowded rigid, very narrow leaves. Native to Tasmania.

67805 to 67834—Continued.

67829. *OXYLOBIUM ELLIPTICUM* (Labill.) R. Br. Fabaceae.

An erect leguminous shrub, sometimes 10 feet tall, native to Australia and Tasmania. The small oval-oblong leaves are mostly in irregular whorls of three, and the yellow flowers are in dense racemes.

67830. *PERSOONIA GUNNII* Hook. f. Proteaceae.

An erect bushy shrub about 8 feet high with flat thick crowded leaves and solitary yellow flowers. Native to Tasmania.

67831. *PITTOSPORUM BICOLOR* Hook. Pittosporaceae.

A bushy shrub or small tree which is sometimes 40 feet high; the thick narrow leaves, 1 to 2 inches long, are entire, hairy beneath, and usually crowded; the purple and yellow flowers are in terminal clusters. Native to India.

For previous introduction see No. 42293.

67832 to 67834. *STYPHELIA* spp. Epacridaceae.67832. *STYPHELIA ACEROSA* (Gaertn.) Laing and Blackwell.

An evergreen shrub or small tree, native to New Zealand, with blackish branches and rigid, sharp, needle-shaped leaves about one-half inch in length with recurved margins. The small white flowers are succeeded by funnel-shaped corollas, forming small white or red drupes.

For previous introduction see No. 47880.

67833. *STYPHELIA ADCENDENS* R. Br.

A stout spreading evergreen white-flowered shrub, native to Tasmania, with oval-oblong flat leaves about one-fourth of an inch long.

67834. *STYPHELIA STRAMINEA* (R. Br.) Spreng.

A bushy evergreen Tasmanian shrub about 2 feet high, with very small broadly oblong leaves, usually crowded near the ends of the current year's shoots. The solitary flowers are white.

67835. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceae. Sweet potato.

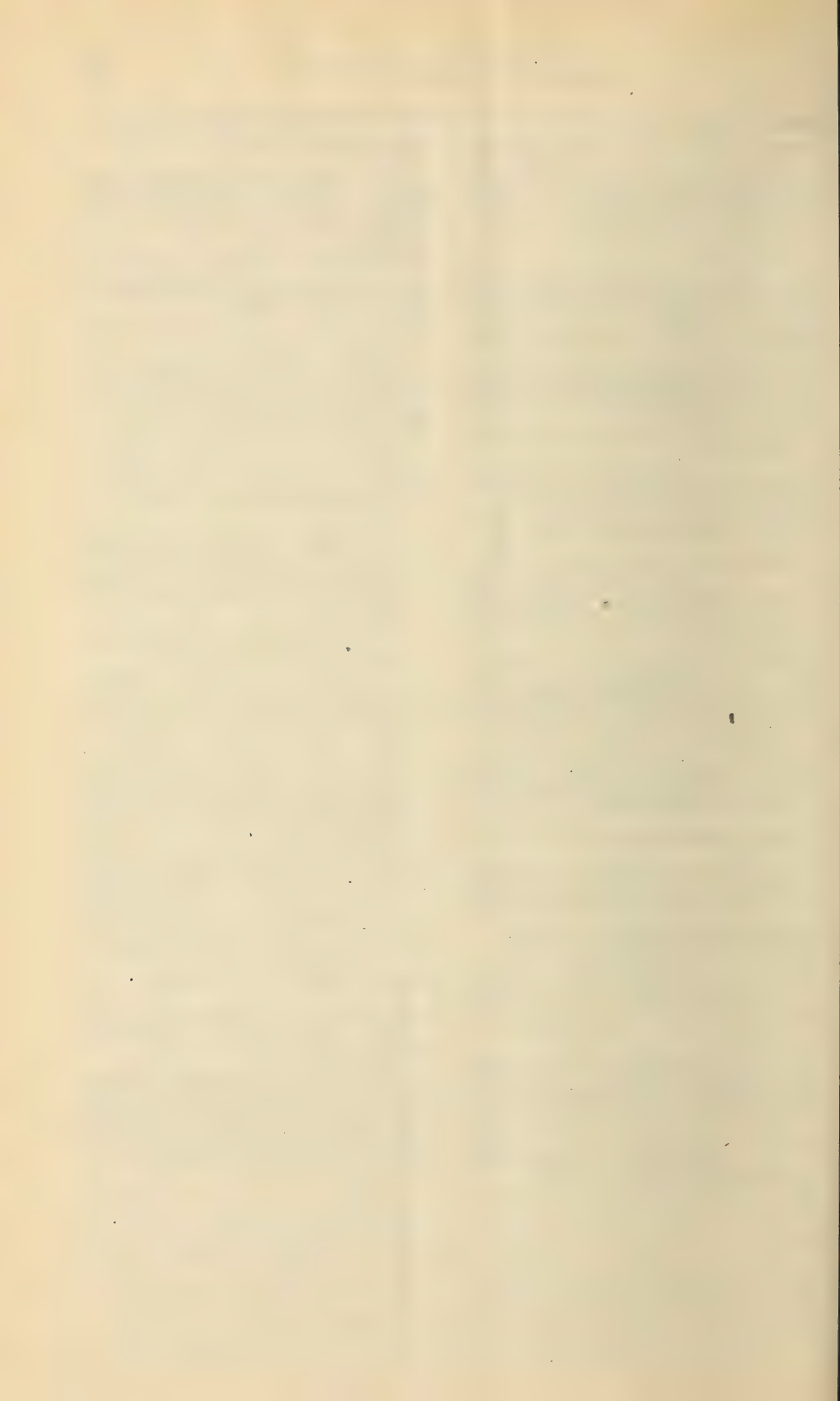
From San Juan, Porto Rico. Cuttings presented by O. W. Barrett, agricultural director, Department of Agriculture. Received June 30, 1926.

No. 74. Grown at Rio Piedras, Porto Rico.

67836. *CEDRELA* sp. Meliaceae.

From Chihli Province, China. Suckers obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received March 2, 1925. Numbered June, 1926.

No. 1912. Village of Kechiatsum, near Feingtai. January 27, 1925. *Hsiang chun shu* (fragrant heaven tree). A tree which is forced in the green-houses for the sake of the young leaves and shoots, which are eaten as a vegetable in the spring. The young trees are propagated by root suckers, and the trees are said to bear fruit only when they become quite old.



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ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

January 29, 1929

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This inventory is a contribution from

<i>Bureau of Plant Industry</i>	WILLIAM A. TAYLOR, <i>Chief.</i>
<i>Office of Foreign Plant Introduction</i>	KNOWLES A. RYERSON, <i>Senior Horticulturist, in Charge.</i>

UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 88



Washington, D. C.

Issued April, 1929

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, JULY 1 TO SEPTEMBER 30, 1926 (NOS. 67837 TO 68955)

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INTRODUCTORY STATEMENT

The plant material received during the summer months of 1926 covers a wide range of material from diverse parts of the world. Collections from the East Indies, made by David Fairchild, included additional cover and green-manure crops (Nos. 67838 to 67847) for testing in comparison with legumes previously introduced from this region. A pink-fleshed grapefruit (*Citrus grandis*, No. 67980) with flesh reported to be so dry that the follicles can be broken from one another and eaten from the hand was also obtained. Many tropical and subtropical trees, shrubs, and fruits (Nos. 67932 to 67941, 67982 to 67985, 67994 to 67996, 68015 to 68040, 68151 to 68153, 68295 to 68298) were included in Doctor Fairchild's collection.

P. H. Dorsett continued to collect field crops and miscellaneous native trees and ornamental shrubs in Manchuria. His introductions are represented by Nos. 67992, 68001 to 68014, 68404 to 68414, and 68420 to 68825. The greater part of these were soy-bean varieties which already, in preliminary tests in the United States, show great promise.

F. A. McClure, continuing his work in southern China, sent in a large number of varieties of rice and vegetables (Nos. 68361 to 68403, 68867 to 68907, 68913 to 68948). From the Institute of Applied Botany, at Leningrad, through A. Kol, was received a good collection of seeds of field crops and miscellaneous plants (Nos. 68054 to 68104, 68171 to 68177). Other seeds from Russia are represented by Nos. 68180 to 68293, wheat and barley, and Nos. 68158 to 68169, *Iris* spp. The collection of iris from Asia Minor (*Iris* spp., Nos. 67909 to 67921) is deserving of special mention.

Attention is called to *Macadamia ternifolia* (No. 67883) and also to the attempt to introduce a related species with a larger nut, *M. prealta* (No. 67882). The horticultural possibilities of *M. ternifolia* make it appear desirable to encourage the planting of this species as specimen trees for homeyards and also for avenue and street purposes in the warmer portions of the country. In this way superior horticultural varieties may be selected from such seedling plantings. *M. ternifolia* is a very fine specimen and avenue tree, and the fact that it is an evergreen makes it serviceable in places where such trees are preferred. Thin-shelled varieties are known to exist in Australia as individual trees, and to find such a variety is one of the objectives of large plantings in this country. Attention perhaps should be called to the fact that the area having climatic conditions suitable to species of Macadamia is limited and somewhat more restricted than in the case of citrus plants. However, more hardy strains than the ones already introduced may yet be found. While *M. prealta* is less well known than *M. ternifolia* and not yet established in the United States, its large nut makes it seem worth special attention by further introductions and subsequent testing.

The introduction of *Pentzia incana* under No. 67880 should again call attention to this shrub as a possible asset to the dry range area of the southwestern United States from the Panhandle of Texas south to the Rio Grande and west to the Pacific coast. It is the well-known karoo bush of the pasture lands of South Africa and affords the best dry-land reserve feed in that region. It is essentially a sheep browse and is reputed to be responsible for the fine quality of wool shipped from Africa. If it can be successfully established in our Southwest it should be a great feed insurance for drought years.

Other plants in this inventory that should be specifically mentioned on account of the results with previous introductions or their promise as indicated by their behavior in their original homes are *Telopea speciosissima* (No. 68912), *Calopogonium mucunoides* (No. 68845), *Arachis nambyquarae* (Nos. 68830 and 68831), *Populus maxmowiczii* (No. 68170), and *Myoporum sandwicense* (No. 68157). The *Myoporum* is suggested for special testing in windy and exposed areas along ocean fronts where a mild climate prevails.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

KNOWLES A. RYERSON,
Senior Horticulturist, in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., July 16, 1928.

INVENTORY¹

67837 to 67847.

From Buitenzorg, Java. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 27, 1926.

The following seeds were obtained at the tea experiment station, Buitenzorg, May 22, 1926.

67837. *ACACIA VILLOSA* (Swartz) Willd. Mimosaceae.

No. 803. A native of Venezuela which is used in Java for the same purpose as *Leucaena glauca*; that is, as a shade for field crops, and is preferred because of its slower growth. It is said to be used in the teak forest plantings as a permanent leguminous undershrub to add nitrogen and humus to the soil.

For previous introduction see No. 44865.

67838. *ALYSICARPUS VAGINALIS NUMMULARIFOLIUS* (L.) Baker. Fabaceae.

No. 808. A low creeping annual legume.

For previous introduction see No. 33640.

67839. *BRADBURYA PUBESCENS* (Benth.) Kuntze (*Centrosema pubescens* Benth.) Fabaceae. Butterfly pea.

No. 806. A climbing tropical American annual legume of great value in Java as a cover crop, having roots which penetrate 11½ feet into the soil in one year's time.

For previous introduction see No. 65315.

67840. *CRACCA CANDIDA* (DC.) Kuntze (*Tephrosia candida* DC.). Fabaceae.

No. 799. A low leguminous shrub with slender branches and large clusters of reddish or white flowers, which is used as a cover crop.

For previous introduction see No. 60642.

67837 to 67847—Continued.

67841. *CRACCA NOCTIFLORA* (Bojer) Kuntze (*Tephrosia noctiflora* Bojer). Fabaceae.

No. 796. A bushy brown-hairy leguminous plant which is used as a cover crop. It has compound leaves about 4 inches long and lax terminal racemes of reddish flowers which open late in the afternoon. Native to tropical Africa.

67842. *CROTALARIA ALATA* Buch.-Ham. Fabaceae.

No. 805. A bushy annual leguminous plant, about a foot high, with pale-yellow flowers; suitable for use as a cover crop.

For previous introduction see No. 51832.

67843. *CROTALARIA USARAMOENSIS* Baker f. Fabaceae.

No. 804. One of the less important cover crops. A leguminous plant which forms a dense low growth and endures partial shade.

For previous introduction see No. 64064.

67844. *INDIGOFERA ENDECAPHYLLA* Jacq. Fabaceae.

No. 809. A native of southern British India, which is considered one of the best cover crops used in Java on the tea estates. It roots from the internodes, as well as from the nodes, and stands drought well.

For previous introduction see No. 63605.

67845. *INDIGOFERA SUFFRUTICOSA* Mill. (*I. anil* L.). Fabaceae.

No. 807. A slender yellow-flowered bushy legume, 3 to 5 feet high, producing a rather scanty growth, which is not considered one of the best cover crops.

For previous introduction see No. 64036.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change, with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in, so that definite identification can be made.

67837 to 67847—Continued.

67846. *STIZOLOBIUM VELUTINUM* (Hassk.)
Piper and Tracy. Fabaceae.

No. 802. A selected variety of the velvet bean which covers the ground in two and one-half months. It grows up to an altitude of 3,000 feet.

For previous introduction see No. 43536.

67847. *VIGNA VEXILLATA* (L.) Rich. Fabaceae.

No. 798. A South American yellow-flowered climber which is being used as a cover crop in Java.

For previous introduction see No. 48607.

67848. *ZIZIPHUS XILOPYRUS* (Retz.) Willd. Rhamnaceae.

From Bombay, India. Seeds obtained by Wilbur Kehlenger, United States consul. Received August 24, 1926.

A small thorny Indian tree, a close relative of the Chinese jujube (*Ziziphus jujuba*). In its native country, where it grows in hot dry places, the young shoots, leaves, and fruits serve as fodder for livestock, and the hard tough wood is used in making carts. The hard bony fruits inclose two or three edible kernels.

For previous introduction see No. 53593.

67849. *ZINZIBER OFFICINALE* Roscoe. Zinziberaceae. Ginger.

From Kandy, Ceylon. Tubers obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 26, 1926. Numbered July, 1926.

No. 319. January 12, 1926. A variety grown in the vicinity of Kandy.

67850. *QUERCUS* sp. Fagaceae. Oak.

From San Jose, Costa Rica. Seeds presented by Federico Peralta, Director, San Jose Department of Agriculture. Received July 19, 1926.

A central American tree of possible value for the warmer parts of the United States.

67851. *COUSINIA* sp. Asteraceae. Taimat.

From Tangier, Morocco. Seeds presented by Moses Albert Azancot, Paseo Cenarro. Received July 23, 1926.

Taimat. This plant grows wild here around the wheat fields. The flower buds are boiled in salted water and eaten; they taste something like asparagus. The uncooked juice from the plant is used with apparent success as a substitute for rennet by the local cheese manufacturers. (*Azancot*.)

A prickly leaved thistlelike plant.

67852 to 67856.

From Yalta, Crimea, Russia. Seeds presented by Th. K. Kalajda, horticultural director, Nikta Botanic Garden. Received July 23, 1926.

Locally grown seeds.

67852 to 67856—Continued.

67852. *MELILOTUS ALBA* Desr. Fabaceae. White sweet clover.

67853. *MELILOTUS OFFICINALIS* (L.) Lam. Fabaceae. Sweet clover.

67854. *MELILOTUS TAURICA* (Bieb.) Seringe. Fabaceae. Sweet clover.

67855. *TRIFOLIUM ARVENSE* L. Fabaceae. Clover.

67856. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

67857 to 67863. *TRIFOLIUM RESUPINATUM* L. Fabaceae. Persian clover.

From Leningrad, Russia. Seeds presented by A. Kol, chief, bureau of introduction, Institute of Applied Botany. Received August 3, 1926.

A small prostrate annual clover common in the vicinity of Cairo, Egypt; usually found in heavy soils.

67857. No. 2525. 67861. No. 3287.

67858. No. 2526. 67862. No. 3701.

67859. No. 2537. 67863. No. 4155.

67860. No. 2541.

67864 to 67879. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.

Common wheat.

From Melbourne, Victoria, Australia. Seeds presented by H. A. Mullett, superintendent of agriculture. Received July 15, 1926.

67864. *Confederation*. 67872. *Omrah*.

67865. *Free Gallipoli*. 67873. *Rajah*.
No. 58.

67866. *Ghurka*. 67874. *Rajah Seln*.

67867. *Mac's White*. 67875. *Ranee*.

67868. *Mahratta*. 67876. *Sepoy*.

67869. *Marmora*. 67877. *Sterling* (78 A).

67870. *Mogul*. 67878. *Turvey*.

67871. *Nizam*. 67879. *Wannon*.

67880. *PENTZIA INCANA* (Thunb.) Kuntze (*P. virgata* Less.). Asteraceae.

From Cape Province, Union of South Africa. Seeds presented by George A. Gill, principal, Grootfontein School of Agriculture, Middleburg. Received July 28, 1926.

A low-growing, spreading bush which layers naturally when the tips of its branches arch over and touch the ground. In the eastern Provinces of Cape Colony, where the rains occur in summer but where long, severe droughts are frequent, this is one of the most valuable of all the karoo plants for fodder purposes. It is especially good for sheep and goats, which eat it down almost to the ground. (Note by David Fairchild under No. 10635.)

For previous introduction see No. 64649.

67881 to 67883.

From Dundas, New South Wales, Australia. Seeds presented by Herbert J. Rumsey. Received August 9, 1926.

67881 to 67883—Continued.

67881. *HICKSBEACHIA PINNATIFOLIA* F. Muell. Proteaceae.

This tree, native to New South Wales, grows to a height of 30 to 40 feet, and the fruit is borne in racemes, attached to the bark and branches of the tree. Each raceme consists of 10 or 12 fruits. The flavor is not quite so good as the Queensland nut, *Macadamia ternifolia*, nor does it keep so well, but nevertheless they are sold in some fruit shops in New South Wales.

For previous introduction see No. 39871.

67882. *MACADAMIA PREALTA* (F. Muell.) F. M. Bailey. Proteaceae.

An evergreen tree, sometimes as much as 100 feet tall, with narrow leathery shining-green leaves about 7 inches long and smooth hard nuts about an inch in diameter which are said to be edible. Native to Queensland and New South Wales, Australia.

67883. *MACADAMIA TERNIFOLIA* F. Muell. Proteaceae.

Var. *integrifolia*. A form of the so-called Queensland nut which has entire leaves. The typical form is a large evergreen tree with narrowly oblong leaves in whorls of three or four and thick-shelled edible nuts an inch in diameter.

For previous introduction see No. 44769.

67884 to 67889.

From San Juan, Porto Rico. Seeds and bud wood presented by O. W. Barrett, agricultural director, Department of Agriculture and Labor. Received August 3, 1926.

67884 to 67887. *CITRUS* spp. Rutaceae.

Varieties grown in Porto Rico.

67884 and 67885. *CITRUS AURANTIUM* L. Sour orange.

67884. Reg. *Seville*.

67885. *Spineless*.

67886. *CITRUS BERGAMIA* Risso. Bergamot.
Bergamote cordoba.

67887. *CITRUS LIMONIA* Osbeck. Lemon.
Tusk lemon.

67888. *MEIBOMIA RENSONI* Painter. Fabaceae.

The *barajillo* is a rapid-growing shrub, which, as described in the Revista de Agricultura Tropical, Salvador (vol. 1, p. 65), is found in Salvador at altitudes of 2,000 to 4,000 feet. The trifoliate leaves are softly hairy and up to 3½ inches in length, and the small purplish flowers are borne in terminal racemes late in October. The roots of the *barajillo* are very large and penetrate deeply into the soil; the tubercles formed by the nitrogen-gathering bacteria are usually found only on the upper third of the root. Cattle are exceedingly fond of this plant; furthermore, it endures prolonged drought and thrives in very poor soil.

For previous introduction see No. 55446.

67884 to 67889—Continued.

67889. *TERAMNUS LABIALIS* (L.) Spreng. Fabaceae.

A slender leguminous tropical American vine, used as forage in St. Thomas, Virgin Islands. (Barrett.)

67890 to 67893.

From Avondale, Auckland, New Zealand. Seeds presented by H. R. Wright. Received July 29, 1926.

67890. *CORYNOCARPUS LAEVIGATA* Forst. Corynocarpaceae. Karaka.

The karaka is a large, handsome New Zealand tree, with a round crown and glossy laurel-like leaves 3 to 7 inches long. The small white flowers are in erect panicles about 4 inches long, and the extremely poisonous orange fruits are oblong and about an inch in length. The kernel of the fruits, however, is not poisonous, and was one of the staple articles of diet of the Maoris, the original inhabitants of New Zealand.

For previous introduction see No. 46764.

67891 and 67892. *HOHERIA POPULNEA* A. Cunn. Malvaceae.

67891. A small ornamental tree or large shrub, up to 30 feet high, with leaves varying in shape from broadly oval and deeply toothed to long and narrow, and attractive snow-white flowers borne in great profusion in axillary clusters. Native to New Zealand, where the white tough wood is sometimes used by cabinetmakers.

For previous introduction see No. 45094.

67892. Var. *Osbornii*. Differs from the normal form in having blue instead of white stamens.

67893. *NAGEIA FERRUGINEA* (G. Benn.) Kuntze (*Podocarpus ferruginea* G. Benn.). Taxaceae. Miro.

A large evergreen tree from New Zealand with gray or blackish bark, which peels off in large flakes, and small narrow pointed leaves arranged in two rows on the branches. The bright-red fruits, the size of small plums, have the taste and odor of turpentine, but are eaten eagerly by the native pigeons.

For previous introduction see No. 44851.

67894 to 67896.

From Stockholm, Sweden. Seeds presented by Dr. Eric Hulten, Stockholm, through David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received August 13, 1926.

67894. *BETULA ERMANI* Champ. Betula. Birch.

No. 915. July 22, 1926. Collected during 1925 by Doctor Hulten at the botanic gardens, Leningrad, Russia. According to the collector this birch covers considerable areas in Kamchatka, where it is native. The tree is rather low growing, and owing to its hardness it deserves to be tested in the extreme North. The trunk is white and the branches orange or yellowish. The broadly oval, coarsely toothed leaves are hairy when young.

67894 to 67896—Continued.

67895. *HEDYSARUM HEDYSAROIDES* (L.) Stuntz (*H. obscurum* L.). Fabaceae.

No. 916. July 22, 1926. Collected during 1919 near the mouth of the Kamchatka River by Doctor Hulten. A hardy herbaceous ornamental perennial native to the alpine regions of central Europe. It is about a foot high and produces spikes of purple flowers in mid-summer.

67896. *LONICERA CAERULEA EDULIS* (Turcz.) Regel. Caprifoliaceae.

Honeysuckle.

No. 914. July 22, 1926. Collected in Kamchatka by Doctor Hulten. An erect or spreading hardy shrub about 5 feet high, native to northeastern Asia. The oblong or lanceolate pubescent leaves are up to 2 inches long, and the oblong edible blue berries are sweet and are used for making excellent jam.

67897 to 67904.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received August 24, 1926.

67897. *ALTINGIA EXCELSA* Noronha. Hamamelidaceae.

A magnificent tree of the tropical evergreen forests of the Indian archipelago and northeastern India. In Java it yields in small quantity an odorless medicinal resin known in Europe as "storax," which is obtained by incisions in the trunk; the tree is not regularly cultivated. The soft reddish gray wood with lighter streaks is used in India for building and ordinary domestic purposes.

For previous introduction see No. 50695.

67898. *CARYOTA RUMPHIANA* Mart. Phoenicaceae. Palm.

An East Indian palm about the size of the coconut palm, with a smooth trunk and graceful bipinnate leaves composed of segments with truncate jagged tips. From the central pith of the bark is prepared a sago which is eaten in the East Indies in times of scarcity.

For previous introduction see No. 51710.

67899. *CASSIA ABSUS* L. Caesalpiniaceae.

An erect annual tropical legume, about 2 feet high, with small reddish yellow flowers.

67900. *EUTERPE ACUMINATA* (Willd.) Wendl. Phoenicaceae. Palm.

A graceful spineless palm from tropical South America, with a trunk 36 feet tall, terminated by about 10 pinnate fronds 7 or 8 feet long. The black roundish fruits are fleshy and about half an inch in diameter.

For previous introduction see No. 51719.

67901. *GLAZIOVA TREUBIANA* Beccari. Phoenicaceae. Palm.

A small palm, cultivated in the Botanical Garden, Buitenzorg, Java. According to Beccari (*Annals du Jardin Botanique de Buitenzorg, Supplement 3, pt. 2, p. 791*) its native country is unknown. The trunk is entirely covered with old leaf bases and terminates in gracefully arching pinnate leaves about 10 feet long.

67897 to 67904—Continued.

67902. *GLORIOSA ABYSSINICA* A. Rich. Melanthiaceae. Glory lily.

A tall, lilylike Abyssinian plant, with large, long-stalked yellow flowers.

67903. *PIGAFETTIA ELATA* (Mart.) Wendl. Phoenicaceae. Palm.

A tall ornamental palm, with a stout trunk, spiny above, and spreading pinnate foliage resembling that of the coconut. Native to the East Indies.

67904. *TRADESCANTIA GENICULATA* Jacq. Commelinaceae. Spiderwort.

A tender herbaceous perennial from the West Indies, about a foot high, with blue flowers.

67905 to 67926.

From Tiflis, Georgia, Russia. Seeds presented by A. Grossheim, director, botanic garden. Received September 1, 1926.

67905. *AMYGDALUS GEORGICA* Desf. (*Prunus nana georgica* DC.). Amygdalaceae.

A hardy bush, native to southern Russia, which closely resembles *Amygdalus nana*, differing in its larger colored flowers and smaller leaves.

67906. *AMYGDALUS NANA* L. (*Prunus nana* Stokes). Amygdalaceae.

Russian almond.

A hardy bush about 5 feet high, native to Russia and western Asia, with thick stiff sharply toothed leaves and solitary pinkish flowers. The small hard hairy fruit contains a large pit of bitter flavor.

For previous introduction see No. 43814.

67907. *BRASSICA ELONGATA* Ehrh. Brassicaceae.

An annual herb, native to south-central Europe, of possible use as a vegetable.

67908. *GALANTHUS CAUCASICUS* Baker. Amaryllidaceae. Snowdrop.

A spring-blooming bulbous plant, native to the Caucasus, with sword-shaped leaves about 9 inches long and large white flowers.

67909 to 67921. *IRIS* spp. Iridaceae.

67909 and 67910. *IRIS ACUTILOBA* Meyer.

67909. A dwarf purple-flowered iris about a foot in height, native to the Caucasus.

67910. Var. *lineolata*.

67911. *IRIS CARTHAGINENSIS* Fomin.

A Caucasian iris described (Moniteur du Jardin Botanique de Tiflis, 1909) as having a thick rhizome and four-flowered or five-flowered stems nearly 3 feet high. The sword-shaped leaves are about two-thirds of an inch wide, and the flowers are light blue. In its native country the plant grows in damp places.

For previous introduction see No. 64297.

67905 to 67926—Continued.

67912. *IRIS CAUCASICA* Hoffm.

A rather dwarf iris described by Baker (*Irideae*, p. 45) as having about six bright-green, very narrow leaves 3 to 6 inches long, a short stem, and pale or bright-yellow flowers which appear in March or April. It is native from Asia Minor to Turkestan, ascending to 6,000 feet above sea level.

For previous introduction see No. 64298.

67913. *IRIS FOMINII* Hort.

A horticultural variety.

67914. *IRIS GROSSHEIMII* Hort.

A horticultural variety.

67915. *IRIS IBERICA* Hoffm. Iberian iris.

A dwarf iris, 18 inches high, native to Asia Minor, with falcate, narrow leaves and large flowers; these are pale-brown marked with purple-brown on the outer segments, with the inner segments pure white, faintly veined.

67916. *IRIS LYCOTIS* Woron.67917. *IRIS MUSULMANICA* Fomin.

An iris from the vicinity of Elisabethpol, Caucasus, which, according to the *Moniteur du Jardin Botanique de Tiflis* (vol. 14, 1909), inhabits brackish swamps. It is less than 2 feet tall, and the flowers are either sky blue or yellowish.

For previous introduction see No. 64299.

67918. *IRIS PARADOX* Stev. Velvet iris.

A low iris with linear leaves 3 to 6 inches long and large flowers, lilac to white. Native to dry places in Asia Minor.

67919. *IRIS RETICULATA* Bieb.

Netted iris.

An early-flowering iris, native to Asia Minor, with a tuft of two to four short, erect, four-angled leaves 18 inches high, a very short stem, and very fragrant, bright-purple flowers.

67920. *IRIS SCHELKOWNIKOWI* Fomin.67921. *IRIS TALYSCHI* Hort.

A horticultural variety.

67922 to 67924. *MUSCARI* spp. Liliaceae.
Grape hyacinth.67922. *MUSCARI CAUCASICUM* (Griseb.) Baker.

An ornamental purple-flowered bulbous plant with a scape 8 inches high. Native to the dry mountainous regions of the Caucasus.

67923. *MUSCARI LONGIPES* Boiss.

A spring-flowering bulbous plant, native to Palestine, about a foot high, with wavy-margined leaves and dense racemes of purple flowers.

67924. *MUSCARI NEGLECTUM* Guss.

A low bulbous plant, native to the Mediterranean countries, with numerous strap-shaped leaves up to a foot in length, and fragrant dark-blue flowers.

For previous introduction see No. 66589.

67905 to 67926—Continued.

67925. *PISUM ELATIUS* Bieb. Fabaceae.
Pea.

A hardy annual, about 5 feet high, with leaves composed of one to three pairs of narrow leaflets, and purple flowers. Native to woods and thickets in the alpine regions of Europe.

For previous introduction see No. 64640.

67926. *ULMUS ELLIPTICA* Koch. Ulmaceae.
Elm.

A large hardy elm, native to the Caucasus.

67927. *SOLANUM TUBEROSUM* L. Solanaceae.
Potato.

From Wolverhampton, England. Tubers obtained from F. W. Keay, through William Stuart, Bureau of Plant Industry. Received July 3, 1926.

Patterson's Victoria. English-grown tubers.

67928. *HEDYCHIUM* sp. Zinziberaceae.
Ginger lily.

From Brazil. Roots obtained from Miss Mary C. Bell, Bayside, N. Y. Received May 11, 1926. Numbered September, 1926.

A leafy, strong-growing tropical ornamental herbaceous perennial, related to ginger. The flowers are in terminal spikes.

67929 to 67931. *LILIUM* spp. Liliaceae.

From Tunbridge Wells, England. Seeds purchased from R. Wallace & Co., The Old Gardens. Received August 5, 1926.

67929. *LILIUM MARTAGON* L.

Martagon lily.

Variety *dalmaticum*. A Dalmatian variety which often grows to be over 6 feet high, with 12 to 40 flowers of richer, deeper purple than the typical variety.

67930. *LILIUM MONADELPHUM* Bieb.

Great Caucasian lily.

Variety *szovitzianum*. A variety with larger, lemon-yellow flowers, more thickly purple-dotted than the typical species, and with reddish brown anthers.

67931. *LILIUM MARTAGON* × *HANSONI*.

Lily.

Seeds of hybrids between *Lilium martagon* and *L. hansonii*, raised by the late Mrs. R. O. Backhouse, an English plant breeder.

67932 to 67941.

From Ceylon. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July, 1926.

67932 and 67933. *SESBANIA GRANDIFLORA* (L.) Poir. Fabaceae.

Seeds, purchased in Peradeniya, of small, rapid-growing, soft-wooded trees, 15 to 20 feet high, with pinnate leaves and large pendulous flowers, followed by long, sickle-shaped pods. The fleshy petals are used in curries and soups in the Indian Archipelago, where these trees are native. The leaves and young shoots are sometimes used as fodder.

For previous introduction see No. 61778.

67932 to 67941—Continued.

67932. No. 914-a. A red-flowered variety.

67933. No. 915-a. A white-flowered variety.

68934. *KLUGIA NOTONIANA* (Wall.) A. DC. Gesneriaceae.

No. 811. Hakgala Botanic Gardens. May 22, 1926. The dyanilla of the Singhalese. A small blue-flowered annual native to Ceylon.

67935. *MONODORA TENUIFOLIA* Benth. Annonaceae.

No. 911. Peradeniya Botanic Gardens. June 9, 1926. A small deciduous tropical African tree, which bears an abundance of yellow, orchidlike flowers in the dry season, when the tree is leafless.

67936. *MUNTINGIA CALABURA* L. Elaeocarpaceae.

No. 912. Peradeniya Botanic Gardens. June 9, 1926. A small ornamental spreading tropical American tree with pinnate leaves and small white flowers. The small yellow berries make good tarts or jam, and the leaves are used for tea.

67937. *PITHECOLOBIUM SUBCORIACEUM* Thwaites. Mimosaceae.

No. 812. Hakgala Botanic Gardens. May 22, 1926. An ornamental tropical leguminous tree about 30 feet high, with glossy leathery compound leaves and dense flower heads about an inch in diameter. Native to Ceylon.

67938. *RHODODENDRON ARBOREUM* J. E. Smith. Ericaceae.

This Himalayan rhododendron is variable both in its foliage and in the color of its flowers. In one form the leaves are silvery on the lower surface, while in another they are covered with a brownish red down. The bell-shaped flowers, borne in dense trusses, vary from deep crimson to pure white. The tree sometimes reaches a height of 35 feet, with a trunk 4 feet in circumference.

For previous introduction see No. 60655.

67939. *RUBUS ELLIPTICUS* J. E. Smith. Rosaceae. Raspberry.

No. 813. Hakgala Botanic Gardens. A Himalayan raspberry, described as follows by J. F. Rock, under No. 55499: "A very stout shrub which, especially when young, is densely covered with long, red, almost hairlike spines. The flowers are white, and the deep-yellow, almost orange, very juicy acid fruits are collected by the hill tribes and brought to the markets; the fruits ripen earlier on the mountains than in the valley. The shrub is found at altitudes of 6,000 to 7,000 feet."

67940. *RUBUS MOLUCCANUS* L. Rosaceae.

No. 814. Hakgala Botanic Gardens. Variety *macrocarpus*. A variety of the tropical high-altitude *Rubus* which produces large fruits with little flavor.

67941. *RUBUS* sp. Rosaceae.

No. 815. Hakgala Botanic Gardens.

67942. *LILIUM PYRENAICUM* Gouan. Liliaceae. Lily.

From London, England. Seeds purchased from Watkins & Simpson, Covent Garden. Received July 29, 1926.

A lily from the Pyrenees Mountains, about 4 feet high, with pale lemon-yellow flowers, dotted purplish black. It resembles *Lilium pomponium*, differing in its greater height, larger bulbs, wider leaves, and larger flowers.

67943. *ERYTHROXYLON COCA* Lam. Erythroxylaceae. Cocaine tree.

From Port of Spain, Trinidad, British West Indies. Plants presented by W. G. Freeman, Director of Agriculture. Received July 21, 1926.

A native tree of tropical South America which thrives from sea level up to 5,000 feet altitude.

67944. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Rio Piedras, Porto Rico. Cuttings obtained from the Porto Rican Insular Experiment Station, through E. W. Brandes, Bureau of Plant Industry. Received July 20, 1926.

A Porto Rican variety.

67945. *GOSSYPIUM* sp. Malvaceae. Cotton.

From Caracas, Venezuela. Seeds presented by H. Pittier, Ministerio de Relaciones Exteriores, Museo Comercial. Received July 16, 1926.

Wild Venezuelan cotton.

67946 to 67948.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received July 16, 1926.

67946. *ACACIA DECURRENS* Willd. Mimosaceae.

Variety *normalis*. A variety of the Green wattle, which is cultivated in California, with sepals as long as the petals. The typical form is a handsome tree with light-green feathery foliage and bright yellow flowers.

67947. *ACACIA DISCOLOR* Willd. Mimosaceae.

A tall unarmed shrub or small tree, native to southeastern Australia and Tasmania, which bears, in autumn, terminal and axillary clusters of yellow flowers.

For previous introduction see No. 62960.

67948. *HAKEA LAURINA* R. Br. Proteaceae. Sea-urchin hakea.

A tall Australian shrub, 30 feet or less high, remarkable for its showy crimson flowers. These are in globular heads, about 2 inches in diameter, from which numerous golden yellow styles protrude an inch or so in all directions.

For previous introduction see No. 64483.

67949. PSIDIUM sp. Myrtaceae. Guava.

From Merauke, New Guinea. Seeds presented by P. T. L. Putnam. Received July 14, 1926.

A locally developed form.

67950 to 67964. PRUNUS spp. Amygdalaceae.

A collection of flowering cherries growing at the United States Plant Introduction Garden, Chico, Calif., originally received from Highland Park, Rochester, N. Y. Numbered July, 1926.

67950 to 67954. PRUNUS SERRULATA Lindl.

67950. P. I. G. No. 16776. Row 123, tree 4, O. T. O. *Ochichima*. A small spreading tree with rough light-brown bark and rather deeply toothed leaves. The double flowers, produced on slender pedicels $1\frac{1}{2}$ inches long, are white, with faint shadings of pink; they are about $1\frac{1}{8}$ inches in diameter.

67951. P. I. G. No. 16784. Row 127, tree 4, O. T. O. *Gosiozakura*. A small spreading tree with rough light-brown bark. The semidouble flowers, produced in clusters of five on slender pedicels $1\frac{1}{4}$ inches in length, are white, faintly overspread with pink, and are $1\frac{1}{2}$ inches in diameter.

67952. P. I. G. No. 16787. Row 131, tree 4, O. T. O. *Oshimazakura*. A quick-growing and comparatively short-lived tree up to 30 feet high, with pale-gray bark and thick, spreading branches. The numerous small, single, white or pinkish flowers are fragrant, and the small ovoid fruits are shining black. Native to central and southern Japan.

67953. P. I. G. No. 16790. Row 133, tree 4, O. T. O. *Hisakura*. A small tree with light-brown bark. The semidouble flowers, produced in clusters of four on slender pedicels an inch in length, are about 1 inch in diameter and delicate rose pink. The rather round petals of the flowers are daintily frilled on the edges.

67954. P. I. G. No. 16783. Rows 139 and 141, trees 4, O. T. O. *Minakami*. Flowers about $1\frac{1}{2}$ inches across, fragrant, single or nearly so, white, in clusters of three, profusely produced. One of the best single white varieties.

67955. PRUNUS SERRULATA SACHALINENSIS (Schmidt) Makino (P. sargentii Rehder).

P. I. G. No. 16795. Row 133, tree 5, O. T. O. *Yamazakura*. The mountain cherry of northern Japan, which under favorable conditions becomes a large tree, up to 70 feet tall, with a spreading crown. It is hardy and long lived and is said to be one of the handsomest of the wild cherries of eastern Asia. The young foliage is bronze green, and the mature leaves assume brilliant colors in autumn, changing to shades of yellow, orange, and crimson. The numerous single flowers, pink or at times nearly white, are up to 4 centimeters across, and the black fruits are about the size of peas. An important feature of this wild cherry is the possibility of its use as a stock for cultivated forms, for which purpose it appears to be well suited.

67950 to 67964—Continued.**67956 to 67959. PRUNUS SERRULATA Lindl.**

67956. P. I. G. No. 16801. Rows 139 and 140, trees 5, O. T. O. *Takinioi*. Tree rather small and spreading, about 15 feet high; bark brownish gray; flowers pure white, single, very fragrant, about $1\frac{1}{2}$ inches across, in clusters of three or four; blooming midseason. The Japanese varietal name means "fragrant white waterfall."

67957. P. I. G. No. 16806. Rows 139 to 141, trees 6, O. T. O. *Senriko*. Tree upright ascending in habit, about 20 feet high; bark brownish gray; young foliage coppery green; flowers single or nearly so, white with a pink blush, fragrant, about $1\frac{3}{4}$ inches across, usually three or four in a cluster.

67958. P. I. G. No. 16811. Row 144, tree 1, O. T. O. *Oshimazakura*.

For previous introduction and description see No. 67952.

67959. P. I. G. No. 16821. Rows 146 to 148, trees 2, O. T. O. *Gyoiko*. A vigorous, erect tree, 12 to 14 feet in height, bearing flowers in great profusion. The semidouble, greenish-white flowers, the petals of which are striped darker green with an occasional tinge of pink, are about $1\frac{1}{2}$ inches in diameter and produced in clusters of three to five.

67960. PRUNUS SUBHIRTILLA AUTUMNALIS Makino.

P. I. G. No. 16831. Row 145, tree 4, O. T. O. *Jugatsuzakura*. Tree spreading, with a rounded crown, about 20 feet high; flowers rosy pink, semidouble, about half an inch in diameter, produced freely in the early spring and also sparingly in October. Occasionally a scanty crop of flowers in the spring is followed by a normal crop the following fall.

67961 and 67962. PRUNUS SERRULATA Lindl.

67961. P. I. G. No. 16835. Row 146, tree 4, O. T. O. *Yedozakura*. Tree about 15 feet high, with brownish bark; buds red; flowers double, light pink, large, about $1\frac{1}{4}$ inches across, freely produced in clusters of three. An excellent variety.

67962. P. I. G. No. 16836. Rows 147 to 149, trees 4, O. T. O. *Taizanfukin*. Tree erect, about 15 feet high, with dark-brown bark; flowers semidouble to double, pink, about an inch in diameter, often borne near the ends of the branches.

67963. PRUNUS SERRULATA SPONTANEA (Maxim.) Wilson.

P. I. G. No. 16838. Rows 146 and 147, trees 5, O. T. O. *Yamazakura*. A native Japanese cherry, common on mountain sides from the extreme southern part of Japan to about the central portion. It becomes a tree 80 feet high, of spreading habit, with single pink flowers, and is of value chiefly because of its possible use as a stock for the better varieties of flowering cherries.

67950 to 67964—Continued.

67964. *PRUNUS YEDOENSIS* Mats.
Yoshino cherry.

P. I. G. No. 16845. Rows 146 to 148, trees 6, O. T. O. *Yoshino*. A handsome Japanese tree, ultimately about 40 feet high, with smooth pale-gray bark, thick wide-spreading branches, and large oblong sharply-toothed leaves which normally appear after the flowers have passed their prime. The flowers, borne in great profusion in the spring, are single, pink, or nearly white and about an inch across. The small black fruits are sometimes produced abundantly and afford an easy means of propagation.

67965 to 67968.

From Peradeniya, Ceylon. Seeds presented by the manager, publication depot and central seed store, Department of Agriculture. Received July 1, 1926.

The following are being tested as cover plants at the experiment station, Peradeniya.

67965. *ALBIZZIA FALCATA* (L.) Backer.
(*A. moluccana* Miquel). Mimosaceae.

A rapid-growing tree with large feathery leaves and small globular flower heads. Because of its thin foliage it is grown as a shade for field crops in Ceylon.

For previous introduction see No. 40776.

67966. *CRACCA VILLOSA PURPUREA* (L.) Kuntze (*Tephrosia purpurea* Pers.).
Fabaceae.

A purple-flowered herbaceous perennial, of low spreading habit, which is native to tropical Africa. According to T. H. Holland (Planters' Chronicle, Ceylon, vol. 21, p. 87), trials in Ceylon show this plant to be suited for growing in the dry parts of the island as a source of green manure.

For previous introduction see No. 62909.

67967. *ERYTHRINA VARIEGATA ORIENTALIS* (L.) Merr. (*E. lithosperma* Blume).
Fabaceae.

A moderate-sized spineless leguminous East Indian tree of very rapid growth, with trifoliate leaves and red flowers. In Ceylon, where it is called the *dadap*, this tree is used as a shade for cover plants, and the foliage is lopped for use as green manure.

67968. *INDIGOFERA CONFUSA* Prain and Baker (*I. arrecta* Benth., not Hochst.).
Fabaceae.

A slender bushy, South African perennial, 1 to 2 feet high. The whole plant is a livid, blue-green, indicating the presence of indigo, according to W. H. Harvey (Flora Capensis, vol. 2, p. 183). The small flowers are silky white.

67969. *LILIUM CHALCEDONICUM* L. Liliaceae.
Chalcedonian lily.

From Athens, Greece. Bulbs purchased from D. Demades, Botanical Museum of the University of Athens. Received August 18, 1926.

The Chalcedonian lily, which came originally from southern Europe, has a green purple-tinged stem 2 to 4 feet high, 100 or more leaves 2 to 6 inches long, and three

to six or more flowers about 3 inches in diameter. These are brilliant scarlet, with scarlet anthers.

67970. *CASTILLA* sp. Moraceae.
Rubber tree.

From San Pedro, Honduras. Seeds presented by H. A. Dike. Received September 7, 1926.

The Castillas are Central American trees from several of which rubber is obtained.

67971. *GARCINIA BANCANA* Miquel. Clusiaceae.

From Singapore, Straits Settlements. Seeds presented by the superintendent of the botanic gardens. Received July 12, 1926.

An East Indian tree, which, as described by Ridley (Flora of the Malay Peninsula, vol. 1, p. 174), is 20 to 80 feet tall, with leathery, broadly oval leaves and ovoid fruits.

67972. *NERINE SARNIENSIS* (L.) Herbert. Amaryllidaceae. Guernsey lily.

From Capetown, South Africa. Bulbs purchased from W. S. Duke & Co. Received February 4, 1926. Numbered July, 1926.

A South African bulbous plant with bright-green linear leaves about a foot long, developed after the bright-crimson flowers; the latter are in umbels of about twelve.

For previous introduction see No. 66981.

67973. *CASTILLA* sp. Moraceae.
Rubber tree.

From Bayeau, Haiti. Seeds collected by W. H. Jenkins. Received July 12, 1926.

A Central American tree introduced as a possible source of rubber, which is obtained from a number of species of this genus.

67974 to 67976. *GOSSYPIMUM* spp. Malvaceae.
Cotton.

From Kulikoro, French West Africa. Seeds presented by R. H. Forbes, collaborator of the Bureau of Plant Industry. Received July 2, 1926.

67974. *GOSSYPIMUM ANOMALUM* Wawra.

This is described by Oliver (Flora of Tropical Africa, vol. 1, p. 211) as a shrub 5 to 10 feet high, with rough branches, reddish flowers, and oval capsules about an inch in length.

For previous introduction see No. 62591.

67975. *GOSSYPIMUM ARBOREUM* L.

Locally grown seeds.

67976. *GOSSYPIMUM OBTUSIFOLIUM* Roxb.

Locally grown seeds of a native Indian cotton.

67977. *PAVETTA ZIMMERMANNIANA* Valet. Rubiaceae.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received July 6, 1926.

A small East Indian evergreen tree or large shrub, with opposite elliptic leaves and clusters of slender-tubed white flowers. One of the most interesting features of this

plant is that the leaves have been found to contain colonies of nonmotile, nitrogen-fixing bacteria, making the species of possible agricultural value. This feature is discussed by Zimmermann and Faber in the *Jahrbücher für Wissenschaftliche Botanik*, vol. 51, p. 285, 1912, and vol. 54, p. 243, 1914.

67978. MIMUSOPS KAUKI L. Sapotaceae.

From Merauke, New Guinea. Seeds presented by P. T. L. Putnam. Received July 14, 1926.

A medium-sized tropical evergreen tree, 20 to 30 feet high, with oval leaves about 4 inches long, crowded at the ends of the branches, and small clusters of white flowers. The slightly acid fruits, about an inch in diameter, are eaten in parts of India.

67979. PASPALUM NOTATUM Fluegge. Poaceae.

From Jaguey Grande, Cuba. Seeds presented by Eugenia Gomez. Received August 9, 1926.

A perennial tropical American grass which has shown promise as a pasture grass in the southern United States. It has very stout rootstocks, makes a firm sod, and does well on sandy as well as on loam soils. The flowering culms and ascending stems attain a height of about 1 foot.

For previous introduction see No. 62049.

67980. CITRUS GRANDIS (L.) Osbeck (*C. decumana* Murr.). Rutaceae. Grapefruit.

From Buitenzorg, Java. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 16, 1926.

No. 810. May 22, 1926. A deep pink-fleshed variety which is so dry the follicles can be broken from each other and eaten out of hand.

67981. POPULUS sp. Salicaceae. Poplar.

From Santiago, Chile. Cuttings presented by Salvador Izquierdo. Received July 9, 1926.

A tall fastigate rapid-growing poplar developed by selection at Santa Ines, the nursery of Señor Izquierdo, located near Santiago.

67982 to 67985.

From India. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 19, 1926.

67982. BROWNEA GRANDICEPS Jacq. Caesalpiniaceae.

No. 907. Peradeniya Botanic Gardens, Ceylon. June 9, 1926. A large handsome Venezuelan tree, up to 40 feet in height, with attractively mottled young foliage and bright-red flowers in large, dense clusters borne at the ends of the branches.

For previous introduction see No. 52308.

67983. GARCINIA CORNEA L. Clusiaceae.

No. 909. Peradeniya Botanic Gardens, Ceylon. June 9, 1926. A handsome tree much like the mangosteen, but with

67982 to 67985—Continued.

smaller leaves. The fruits are about the size of a small orange and are said to be edible.

For previous introduction see No. 49537.

67984. GARCINIA MANGOSTANA L. Clusiaceae. Mangosteen.

Seeds obtained in India.

67985. GARCINIA sp. Clusiaceae.

A tropical Asiatic tree closely related to the mangosteen.

67986 to 67988. CITRUS GRANDIS (L.) Osbeck (*C. decumana* Murr.). Rutaceae. Grapefruit.

From Java. Seeds obtained from Mr. Cornelio, through W. T. Swingle, Bureau of Plant Industry. Received July 9, 1926.

Locally developed grapefruit varieties.

67986. Djerook Panden Wangi.

67987. Djerook Bale.

67988. Djerook Delima.

67989. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Melbourne, Australia. Seeds purchased from F. H. Brunning. Received July 15, 1926.

Giant Colonial cowgrass. A high-yielding form of red clover developed under New Zealand conditions, of high feeding value, suitable for grazing, cutting for green feed, or cutting for hay. (Bunning.)

67990. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Leningrad, Russia. Seeds purchased from A. Kol, chief, bureau of introduction, Institute of Applied Botany. Received July 15, 1926.

Seeds grown in Perm, Russia.

67991. LITCHI CHINENSIS Sonner. (*Nephelium litchi* Cambess.). Sapindaceae. Lychee.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture. Received July 19, 1926.

Seeds from trees growing spontaneously in the Philippines.

67992. ULMUS PUMILA L. Ulmaceae. Chinese elm.

From Harbin, Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received July 17, 1926.

No. 5489. June 1, 1926. Seeds from trees growing on the streets and in the parks of Harbin.

67993. HYMENOCALLIS AMANCAES (Ruiz and Pav.). Nichols. Amaryllidaceae. Spider lily.

From Lima, Peru. Bulbs presented by Carlos Rospigliosi, founder and director, Museo de Historia Natural. Received July 26, 1926.

A tender bulbous plant about 2 feet high with large bright-yellow flowers. Native to Peru and Chile.

67994 to 67996.

From Ceylon. Seeds obtained from the Peradeniya Botanic Garden by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 19, 1926.

67994. *COUROUPITA GUIANENSIS* Aubl.
Lecythidaceae.

No. 910. June 9, 1926. The "cannon-ball" tree, native to Guiana, is one of the strangest freaks of the vegetable kingdom. It is a large, handsome tree which produces pink fleshy flowers of curious shape on special crooked branches rising from the trunk. These flowers are followed by cannon-ball shaped fruits 4 to 5 inches in diameter.

For previous introduction see No. 50475.

67995. *PARKIA TIMORIANA* (DC.) Merr.
(*P. roxburghii* G. Don.). Mimosaceae.

No. 913. June 9, 1926. A beautifully shaped park tree with a clear smooth trunk, attaining a height of 100 feet or more. It is a rapidly growing legume native to Burma. The flowers appear during November, and large clusters of long brown pods are produced on long peduncles. The fine feathery foliage and the graceful form of the tree combine to make an exceptional shade tree for tropical gardens.

For previous introduction see No. 61064.

67996. *STERCULIA LANCEOLATA* Cav. Sterculiaceae.

No. 908. June 9, 1926. A rather small evergreen tree from southeastern Asia, with small lanceolate leaves, which is particularly striking when bearing its bright scarlet fruits. These consist of a cluster of five spreading follicles which open on the under side, displaying the black shiny seeds.

67997 to 68000.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received July 12, 1926.

67997. *ECHINOCHLOA STAGNINA* (Retz.) Beauv. Poaceae. Grass.

A tall perennial grass, 6 feet or less high, which grows wild in marshy land in tropical Africa, where, according to Holland (Useful Plants of Nigeria, pt. 4, p. 831), it is a good fodder, much relished by stock.

For previous introduction see No. 49845.

67998. *ORYZA LATIFOLIA* Desv. Poaceae.

A native Brazilian rice, which is a perennial, sometimes 8 feet high, growing on land which is not flooded, according to a note by Andre Goeldi, of the Museu Goeldi, Para, Brazil, published under No. 50491.

67999. *PANICUM REPENS* L. Poaceae. Grass.

A gray-green creeping or ascending perennial grass up to 2 feet high, native to the Mediterranean countries, and distributed throughout Asia Minor and tropical Africa. The stout rootstocks of this grass make it difficult to eradicate.

67997 to 68000—Continued.

68000. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

Locally grown seeds.

68001 to 68014.

From Kungchuling, Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received July 16, 1926.

From the Kungchuling Agricultural Experiment Station.

68001 to 68005. *SORGHUM VULGARE* Pers. Poaceae. Sorghum.

68001. No. 5490. *Hung ko tai she jen* (red-husked large snake eye).

68002. No. 5491. A late-maturing variety with a stalk over 3 meters long.

68003. No. 5492. *Kei ko she jen hing* (black-husked red snake eye). A land variety which matures in mid-season.

68004. No. 5493. *Lao mu chu pu tai tou* (old pig does not lift up his head). An early dwarf variety.

68005. No. 5494. *Pai kao liang* (white kaoliang). A late-maturing variety.

68006. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Poaceae. Six-rowed barley.

No. 5496½. *Feng tien hei* (Mukden black barley). A local strain.

68007. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. Six-rowed barley.

No. 5495. *Feng tien pai* (Mukden white barley). The best strain in southern Manchuria, widely cultivated near Mukden.

68008 to 68011. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

68008. No. 5498. *Ssu li huang* No. 4. Selected from a local variety in Kungchuling in 1914. It is the best strain available for distribution.

68009. No. 5499. *Mukden pai mei*. An early-maturing variety cultivated in the vicinity of Mukden.

68010. No. 5500. *Ssu piu chieh hei chi*. Cultivated in the vicinity of Ssuiuchieh.

68011. No. 5501. *Pai hua tso zu*. A midseason variety cultivated in the vicinity of Kungchuling.

68012 to 68014. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

68012. No. 5496. Originally from Sancheng, northern Manchuria.

68013. No. 5497. A local variety cultivated near Nangan, southern Manchuria, which matures in midseason.

68014. No. 5498½. *Kung chuling improved* No. 3. A selected strain.

68015 to 68040.

From southeastern Asia and the Balearic Islands. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 29, 1926.

68015 to 68040—Continued.

68015. *SEBANIA GRANDIFLORA* (L.) Poir.
Fabaceae.

No. 859. Tandjong Priok, Java. May 26, 1926. A remarkably rapid-growing small leguminous tree which produces attractive purplish flowers, $2\frac{1}{2}$ inches long. This tree is much used as a half shade for various cultures in the East Indies. The white variety is much more common, and seeds of the purple variety are very hard to obtain.

For previous introduction see No. 61778.

68016. *ALLAMANDA SCHOTTH* Pohl. Apocynaceae.

No. 847. Botanic garden, Singapore, Straits Settlements. May 30, 1926. A shrub having an abundance of flowers which are smaller than those of *A. grandiflora*.

68017. *ALLIUM CEPA* L. Liliaceae. Onion.

No. 793. Iviza, Balearic Islands. May 21, 1926. The giant onion of Iviza produces bulbs of very large size, some measuring over 6 inches in diameter and 2 inches thick. These onions were found to be an excellent dish when boiled; a single onion will serve five persons.

For previous introduction see No. 64449.

68018. *ARTOCARPUS CHAMPEDEN* (Lour.) Spreng. (*A. polyphema* Pers.). Moraceae.

No. 843. Singapore, Straits Settlements. May 31, 1926. A handsome shade tree bearing small elongated fruits which are rather smooth skinned. The arillus has a peculiar sweet flavor.

For previous introduction see No. 51804.

68019. *BRADBURYA PLUMIERI* (Turp.) Kuntze (*Centrosema plumieri* Turp.). Fabaceae. Butterfly pea.

No. 801. Buitenzorg, Java. May 22, 1926. An ornamental leguminous vine, native to Brazil.

For previous introduction see No. 48597.

68020. *CASSIA BACILLARIS* L. f. Caesalpiniaceae.

No. 734. Sibolangit Botanic Garden, Sumatra. March 28, 1926. A small tree suitable for street and park planting. The flowers are golden yellow and an inch or more in diameter.

68021. *CASUARINA SUMATRANA* Jungh. Casuarinaceae.

No. 844. Botanic garden, Singapore, Straits Settlements. May 31, 1926. This species is one of the handsomest of the Casuarinas. It has large cones and very fine drooping branchlets.

For previous introduction see No. 54705.

68022. *CITRUS GRANDIS* (L.) Osbeck (*C. decumana* Muir.). Rutaceae. Grapefruit.

No. 795. From the Department of Agriculture, Buitenzorg, Java. May 22, 1926. The "Djeroek pandan wangi" of Java. A very large variety which has brilliant pink flesh of good quality and texture. The fruit has a secondary

68015 to 68040—Continued.

fruit in its interior. In fact it is a navel, showing this character on the exterior. It is very good for eating out of hand because it is so dry.

68023. *CITRUS* sp. Rutaceae.

No. 794. From the Department of Agriculture, Buitenzorg, Java. May 22, 1926. "Japanese citron." A very productive curious hybrid variety found in the kampongs of Java. It is suggestive of a cross between the tangerine and the lime and is very sour. It is a remarkable citrus stock in the wet region of western Java.

68024. *DIALIUM LAURINUM* Baker. Caesalpiniaceae.

No. 840. From the market at Singapore, Straits Settlements. May 31, 1926. The so-called "Velvet tamarind." The attractive gray fruits have a thin shell which is easily broken, and they contain a thin, very sweet, and agreeable pulp.

For previous introduction see No. 51770.

68025. *DIALIUM MAINGAYI* Baker. Caesalpiniaceae.

No. 841. Singapore market, Straits Settlements. May 31, 1926. A smaller fruited species with acid pulp instead of sweet; otherwise much like *Dialium laurinum*.

68026. *EUGENIA AQUEA* Burm. f. Myrtaceae.

No. 735. Botanic garden, Sibolangit, Sumatra. March 28, 1926. This small tree makes a superb showing with its crimson fruits, which have a color quality rarely seen.

For previous introduction see No. 48223.

68027 to 68034. *GARCINIA* spp. Clusiaceae.

68027. *GARCINIA BANCANA* Miquel.

No. 860. Botanic garden, Penang, Straits Settlements. June 5, 1926. A tree with large handsome leaves and large yellow one-sided fruits with thick rind, extremely sour flesh, and seeds $1\frac{1}{2}$ inches long and half an inch thick. The fruits are about the size of the largest fruits of *Garcinia xanthochymus*, but in character of the rind remind one more of *G. atroviridis*. There is little arillus, but what there is has a pleasant acid flavor.

68028. *GARCINIA DULCIS* (Roxb.) Kurz.

No. 821. Singapore, Straits Settlements. May 31, 1926. A sour variety called Munda by the Malays. The fruits are larger than those of *Garcinia xanthochymus*, and like them are very acid.

For previous introduction see No. 30970.

68029. *GARCINIA FORBESII* King.

No. 817. Botanic garden, Singapore, Straits Settlements. May 31, 1926. A small-leaved lowland tree, 15 feet high, of Singapore, where the annual precipitation is 150 inches. The red fruits are the size of a cherry and have acid pulp. The arillus is red.

68030. *GARCINIA GRIFFITHII* T. Anders.

No. 819. Botanic garden, Singapore, Straits Settlements. May 31, 1926.

68015 to 68040—Continued.

A common tree in the woods of Singapore. It is 60 feet tall, with smooth bark and large leaves, 9 to 16 inches long. The acid fruits are said to be 3 inches in diameter, globose, flattened at the top and brownish green, resembling a russet apple.

68031. *GARCINIA MANGOSTANA* L.
Mangosteen.

No. 861. Penang, Straits Settlements. The largest seeds, separated from the smaller ones, to see whether they had more vitality.

68032. *GARCINIA MANGOSTANA* L.
Mangosteen.

No. 862. Penang, Straits Settlements. The small seeds, which are believed to have little vitality.

68033. *GARCINIA MANGOSTANA* L.
Mangosteen.

No. 864. Penang, Straits Settlements. A mixture of medium-sized and large seeds.

68034. *GARCINIA NIGRO-LINEATA* Planch.

No. 818. Botanic garden, Singapore, Straits Settlements. May 31, 1926. A handsome park tree 40 feet tall, with large leaves 6 to 8 inches long and small edible fruits.

68035. *GUSTAVIA* sp. Lecythidaceae.

No. 849. Botanic garden, Singapore, Straits Settlements. May 30, 1926. A handsome shrub or small tree with rather curious flowers, reminding one of a passion flower with its many stamens.

68036. *MIMOSA INVISA* Mart. Mimosa-ceae.

No. 797. Tea experiment station, Buitenzorg, Java. May 22, 1926. A most remarkable humus producer which makes a mat of herbage 3 feet high. It is a pink-flowered, very spiny bush, native to tropical America.

For previous introduction see No. 45618.

68037. *OLEA MARITIMA* Wall. Oleaceae.

No. 845. Botanic garden, Singapore, Straits Settlements. May 31, 1926. A shrub or small tree common in the lowlands near the sea in Singapore, and there probably capable of withstanding some salt. It bears round velvety black or very dark brown fruits, one-fourth of an inch in diameter, which resemble olives.

68038. *PASSIFLORA LAURIFOLIA* L. Passifloraceae. Yellow granadilla.

No. 846. Botanic garden, Singapore, Straits Settlements. May 30, 1926. A yellow-fruited granadilla with refreshing pulp which is not so juicy as *Passiflora edulis*. It is a handsome evergreen climber.

For previous introduction see No. 44852.

68039. *SHUTERIA VESTITA* Wight and Arn. Fabaceae.

No. 379. Ramboda Falls, Ceylon. January 27, 1926. A trailing legume with trifoliate leaves, which have a dark spot on each leaflet. The stems are extremely strong and slender and difficult to break.

68015 to 68040—Continued.

68040. *VIGNA HOSEI* Hort. Fabaceae.

No. 800. Buitenzorg, Java. One of the most successful cover crops which has been used on the shady ground under the rubber plantations, and one which does not die back when exposed to the sun.

68041 to 68053. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Paseroean, Java. Cuttings purchased from J. Kuyper, assistant director, sugar experiment station. Received August 6, 1926.

Varieties grown in Java.

68041. No. 331. 68048. No. 2752.

68042. No. 105. 68049. No. 2753.

68043. No. 139. 68050. No. 2878.

68044. No. 501. 68051. No. 2883.

68045. No. 1335. 68052. *Gr. D. N. G.*

68046. No. 1499. 68053. *White Ceram.*

68047. No. 2722.

68054 to 68104.

From Leningrad, Russia. Seeds presented by A. Kol, chief, bureau of introduction, Institute of Applied Botany. Received July 26, 1926.

68054 and 68055. *AGROPYRON CRISTATUM* (L.) Gaertn. Poaceae. Wheatgrass.

A perennial, thickly caespitose grass with stout rhizomes, native to southeastern Europe. It is both drought and cold resistant and promises to be of value for the cold grassland area of the Rocky Mountains.

For previous introduction see No. 64090.

68054. No. 2997. From Nemkommuna, Samara Government.

68055. No. 2998. A broad-leaved variety from Nemkommuna, Samara Government.

68056. *AGROPYRON TENERUM* Vasey. Poaceae. Slender wheatgrass.

No. 9453. From the Western Siberian Experiment Station, Omsk.

68057. *ALLIUM SCHOENOPRASUM* L. Liliaceae. Chives.

No. 9270. From Moscow Government. The sand leek or rocambole of Europe and Asia Minor resembles garlic, but has smaller bulbs of milder flavor, which are produced at the tip of the stem as well as at its base.

For previous introduction see No. 59691.

68058. *AMARANTHUS CAUDATUS* L. Amaranthaceae. Amaranth.

No. 1101. From the Voronezh Government Step. Experiment Station.

For previous introduction see No. 56611.

68059. *ANETHUM GRAVEOLENS* L. Apiaceae. Dill.

No. 9260. From Kiev Government.

For previous introduction see No. 64340.

68054 to 68104—Continued.

68060 to 68063. *AVENA SATIVA* L. Poaceae. Oats.

68060. No. 1328. From the Shatilov Experiment Station, Tula Government.

68061. No. 1329. From the Shatilov Experiment Station, Tula Government.

68062. No. 9451. From the Western Siberian Experiment Station, Omsk.

68063. No. 9452. From the Western Siberian Experiment Station, Omsk.

68064 and 68065. *BRASSICA OLERACEA CAPITATA* L. Brassicaceae. Cabbage.

From Moscow Government.

68064. No. 2918. *Kubysbka*.

68065. No. 2919. *Leverka*.

68066. *BROMUS ERECTUS* Huds. Poaceae. Meadow brome grass.

No. 7395. From the Tulun Experiment Station, Irkutsk Government. A perennial, thickly caespitose grass, with upright stems 1 to 3 feet high. Native to Europe and Asia Minor.

68067. *CORIANDRUM SATIVUM* L. Apiaceae. Coriander.

No. 9256. From Geraj, Afghanistan.

68068 to 68071. *CUCUMIS SATIVUS* L. Cucurbitaceae. Cucumber.

From Moscow Government.

68068. No. 2929. 68070. No. 2935.

68069. No. 2933. 68071. No. 2937.

68072. *DACTYLIS GLOMERATA* L. Poaceae. Orchard grass.

No. 7408. From Bekasovo, Moscow Government.

For previous introduction see No. 55382.

68073. *DAUCUS CAROTA* L. Apiaceae. Carrot.

No. 2927. *Vorobjewsk*. From Moscow Government.

68074. *FESTUCA ELATIOR* L. Poaceae. Meadow fescue.

No. 7416. From the Tulun Experiment Station, Irkutsk Government.

68075. *HELIANTHUS ANNUUS* L. Asteraceae. Sunflower.

No. 3002. From the Saratov Experiment Station.

68076 and 68077. *LENS ESCULENTA* Moench. Fabaceae. Lentil.

68076. No. 3006. From the Bogorodizkaja Experiment Station, Kursh Government.

68077. No. 3454. From Kasvin, Persia.

68078. *LEPIDIUM SATIVUM* L. Brassicaceae. Garden cress.

No. 9276. From Faisabad, Afghanistan.

68079. *LOTUS CORNICULATUS* L. Fabaceae. Bird's-foot trefoil.

No. 7435. From the Tulun Experiment Station, Irkutsk Government.

For previous introduction see No. 57967.

68054 to 68104—Continued.

68080. *MEDICAGO SATIVA* L. Fabaceae. Alfalfa.

No. 9893. From Tashaus, Turkestan.

68081. *PANICUM MILIACEUM* L. Poaceae. Proso.

No. 3003. From the Saratov Government Experiment Station.

68082 to 68085. *PAPAYER SOMNIFERUM* L. Papaveraceae. Poppy.

From Mongolia.

68082. No. 9263. 68084. No. 9265.

68083. No. 9264. 68085. No. 9267.

68086. *PHALARIS CANARIENSIS* L. Poaceae. Canary grass.

No. 9286. From Tauris.

68087 and 68088. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.

68087. No. 2909. From Kharkof Government.

68088. No. 2910. From Kiev Government.

68089. *PIMPINELLA ANISUM* L. Apiaceae. Anise.

No. 9255. From Mongolia.

68090 to 68092. *PISUM SATIVUM* L. Fabaceae. Pea.

68090. No. 1085. From the Kokutchev Experiment Station.

68091. No. 1090. From the Moscow Agricultural Academy.

68092. No. 1096. From Rostov, Don.

68093. *RAPHANUS SATIVUS* L. Brassicaceae. Radish.

No. 2944. From Moscow Government.

68094. *SPINACIA OLERACEA* L. Chenopodiaceae. Spinach.

No. 9273. From Kandagar, Afghanistan.

68095. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceae. Fenugreek.

No. 9284. From Afghanistan.

68096 to 68102. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

68096. No. 2999. *Belokoloska*. From the Saratov Experiment Station.

68097. No. 3001. From the Saratov Experiment Station.

68098. No. 6985. From the Ekaterinoslav Experiment Station.

68099. No. 9446. From the Western Siberian Experiment Station, Omsk.

68100. No. 9447. From the Western Siberian Experiment Station, Omsk.

68101. No. 9448. From the Western Siberian Experiment Station, Omsk.

68102. No. 9449. From the Western Siberian Experiment Station, Omsk.

68103 and 68104. *TRITICUM DURUM* Desf. Poaceae. Durum wheat.

68103. No. 2996. From the Krasnokut Experiment Station, Samara Government.

68104. No. 10407. *Mieri Bugdaj*. From Merv District, Turkestan.

68105 to 68125.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received August 13, 1926.

68105. *ALPINIA HOOKERIANA* Valet. Ziniberaceae.

A biennial tufted leafy herb, 4 to 6 feet high, with bright-green leaves a foot or so long and drooping white and orange flowers in erect panicles. Native to the Malay Peninsula.

68106. *ANGIOPTERIS JAVANICA* Presl. Marattiaceae. Fern.

A coarse tropical fern native to Java, with a massive rounded rootstock and large bipinnate fronds.

68107. *ARECA ALICAE* F. Muell. Phoenicaceae. Palm.

An Australian palm with several slender graceful spineless trunks, 9 feet or more in height, and pinnate shining-green leaves 3 to 6 feet long.

68108. *ARECA TRIANDRA* Roxb. Phoenicaceae. Palm.

A graceful spineless palm, ultimately about 25 feet high, usually with several trunks, which bears crowns of pinnate leaves 4 to 6 feet in length. The fruits, about the size of olives, are orange-scarlet. Native to India.

For previous introduction see No. 45956.

68109. *ARENGA MICROCARPA* Beccari. Phoenicaceae. Palm.

A handsome East Indian palm, with a ringed trunk, covered with black hairs when young and a crown of large pinnate leaves.

68110. *ASPLENIUM SQUAMULATUM* Blume. Polypodiaceae. Fern.

A tropical fern, native to Java.

68111. *CARYOTA MITIS* Lour. Phoenicaceae. Palm.

A Malayan palm about 20 feet high with a straight cylindrical spineless ringed trunk, 4 inches or more in diameter, and bipinnate leaves 4 to 9 feet in length. The purple fruits are about the size of cherries.

For previous introduction see No. 51709.

68112. *CARYOTA SOBOLIFERA* Mart. Phoenicaceae. Palm.

A handsome East Indian palm with a spineless trunk about 25 feet high, crowned by a graceful cluster of pinnate leaves composed of short broad segments.

68113. *CHRYSALIDOCARPUS MADAGASCARIENSIS* Beccari. Phoenicaceae. Palm.

A graceful palm, native to Madagascar, about 15 feet high with leaves 10 feet long. The pinnate leaves, with 18-inch long segments arranged in fascicles of six or eight, seem to be arranged on the stem in threes, giving it a triangular appearance. This arrangement of the leaves and the fascicled arrangement of the leaflets is peculiar to this genus, not being found in any other pinnate-leaved palm.

For previous introduction see No. 45958.

68105 to 68125—Continued.

68114. *CORYPHA GEBANGA* Blume. Phoenicaceae. Palm.

A tall East Indian palm with a stout, spineless trunk and large, terminal orbicular fanlike leaves.

68115. *CYRTOSTACHYS LAKKA* Beccari. Phoenicaceae. Palm.

A stately and elegant palm, native to the East Indies, with a slender spineless stem crowned by a cluster of boldly arched leaves 3 to 4 feet in length. The fruits are elongate egg-shaped and about half an inch long.

For previous introduction see No. 55579.

68116. *CYRTOSTACHYS RENDA* Blume. Phoenicaceae. Palm.

A Sumatran palm of stately habit, about 25 feet high, with a slender spineless trunk crowned by a graceful cluster of pinnately divided leaves, with bright-red leaf sheaths.

68117. *IXORA JAVANICA* (Blume) DC. Rubiaceae.

An ornamental East Indian evergreen shrub, about 3 feet high, with oval-oblong leaves up to 7 inches long and clusters of deep orange-red flowers.

68118 to 68120. *LATANIA* spp. Phoenicaceae. Palm.68118. *LATANIA COMMERSONII* Gmel.

A palm from the island of Mauritius which reaches a height of 30 to 40 feet, with slightly spiny, fan-shaped, dark-green leaves marked with red in young trees. The leaves are used by the natives in making fans, hats, mats, etc.

For previous introduction see No. 51720.

68119. *LATANIA LODDIGESII* Mart.

A low spineless palm, native to Mauritius, with rounded, fan-shaped leaves 3 to 5 feet long and pear-shaped fruits over 2 inches long.

For previous introduction see No. 59316.

68120. *LATANIA VERSCHAFFELTII* Lem.

A fan-leaved palm about 20 feet high, with pale-green leaves 5 feet long, and hairy petioles, with orange margins, 5 to 8 feet long. Native to the island of Rodriguez, east of Mauritius.

For previous introduction see No. 51722.

68121. *LICUALA AMPLIFRONS* Miquel. Phoenicaceae. Palm.

A showy dwarf fan palm from Sumatra with leaves about 2½ feet long and usually 12-parted.

68122. *MARATTIA SAMBUCINA* Blume. Marattiaceae. Fern.

A large coarse tropical fern with stiff bipinnate fronds. Native to damp situations in the mountains of Java.

68123. *NORMANBYA MUELLERI* Beccari. Phoenicaceae. Palm.

An elegant Australian palm with attractive pinnate leaves.

68105 to 68125—Continued.

68124. *TRICHOSANTHES GLOBOSA* Blume.
Cucurbitaceae.

An ornamental cucurbitaceous climber, native to Java, with 3-palmate to 5-palmate leaves and globose fruits.

68125. *ZEPHYRANTHES CITRINA* Baker.
Amaryllidaceae. Zephyr lily.

A bulbous plant, unknown except in cultivation, with linear bright-green leaves a foot long and bright-yellow flowers $1\frac{1}{2}$ inches long, on scapes about 5 inches high.

68126. *CANNA* sp. Cannaceae.

From Haina, Santo Domingo, Dominican Republic. Seeds presented by Dr. R. Ciferri, Director, Estación Agronómica de Haina. Received August 18, 1926.

A native canna from the Dominican Republic.

68127 and 68128.

From Kedjadar, Java. Seeds presented by A. M. Cramer. Received August 18, 1926.

68127. *CASSIA LAEVIGATA* Willd. Caesalpinziaceae.

An erect shrubby ornamental tropical cassia about 3 feet in height, with axillary and terminal racemes of large yellow flowers and cylindrical leathery pods 2 to 3 inches long, inflated when ripe.

For previous introduction see No. 55599.

68128. *PHASEOLUS LUNATUS* L. Fabaceae.
Lima bean.

Java-grown seeds of a pole Lima bean.

68129. *PHASEOLUS CARACALLA* L. Fabaceae. Bertoni bean.

From Summit, Canal Zone. Seeds presented by Holger Johansen, Plant Introduction Garden. Received August 8, 1926.

A perennial leguminous climber from the warmer parts of Paraguay, which bears attractive purplish or yellowish flowers during the late summer and autumn.

For previous introduction see No. 37010.

68130 to 68136. *AVENA SATIVA* L. Poaceae. Oats.

From Melbourne, Victoria, Australia. Seeds presented by H. A. Mullett, Superintendent of Agriculture. Received August 5, 1926.

Australian-grown oat varieties.

68130. *Burt's Early*.

68131. *Lachlan*.

68132. *Palestine*.

68133. *Ruakura*.

68134. *Sunrise*.

68135. *Wild oats* \times *Ruakura*.

68136. *Yarran*.

68137 to 68140.

From Bayswater, Bloemfontein, South Africa. Seeds presented by Charles A. Beck. Received August 18, 1926.

68137 to 68140—Continued.

68137. *ACACIA HORRIDA* (L.) Willd. Mimosaceae.

A spreading, flat-topped, spiny tree, about 20 feet high, widely distributed throughout South Africa. The fragrant yellow flower heads are often visited by bees, but the main value of the tree in South Africa is as a shade for stock.

For previous introduction see No. 48518.

68138. *CUSSONIA UMBELLIFERA* Sond. Araliaceae.

A South African tree, about 35 feet high, with compound, shining-green leaves a foot or so long, and large umbels of small fleshy fruits.

68139. *ERAGROSTIS* sp. Poaceae.

A South African perennial grass.

68140. *ZIZIPHUS MUCRONATA* Willd. Rhamnaceae.

A spiny tree, native to South Africa, about 25 feet high, with small, three-nerved leaves, inconspicuous yellowish flowers, and red fruits about the size of cherries.

68141 to 68150.

From Brignoles, France. Seeds presented by R. Salgues, Station Botanique de Brignoles. Received August 18, 1926.

68141. *ANDROSACE MAXIMA* L. Primulaceae.

A small ornamental tufted European annual, about a foot high, which belongs to the primrose family. The white flowers appear in the spring.

68142. *ANTHYLLIS TETRAPHYLLA* L. Fabaceae.

A leguminous annual, native to southern Europe, about a foot high, with spikes of yellow flowers.

68143. *ELICHRYSUM STOECHAS* (L.) DC. Asteraceae.

A handsome evergreen shrub about 2 feet high, with yellow flowers. Native to the Mediterranean region.

68144. *HUMULUS LUPULUS* L. Moraceae.
Hop.

European-grown hop seeds.

For previous introduction see No. 42024.

68145. *IRIS FOETIDISSIMA* L. Iridaceae.
Gladwin iris.

An iris, native to the Mediterranean countries, with leaves a foot long and bright-lilac flowers borne on a stem about 2 feet high.

For previous introduction see No. 66576.

68146. *PHALARIS ARUNDINACEA* L. Poaceae.
Reed canary grass.

Locally grown seeds.

For previous introduction see No. 60881.

68147. *RANUNCULUS FALCATUS* L. Ranunculaceae.
Buttercup.

A low annual, with small yellow flowers, native to southern Europe.

68141 to 68150—Continued.

68148. *RUSCUS ACULEATUS* L. Convallariaceae.
Butcher's-broom.

An ornamental evergreen shrub, about a foot high, with prickly stems and large red berries. Native to England.

68149. *SCORPIURUS SUBVILLOSA* L. Fabaceae.

A decumbent or ascending annual with one to three stems up to 20 inches in length, long-stemmed, simple, grass-green, narrow leaves, and small yellow flowers. Native to the Mediterranean countries.

For previous introduction see No. 65035.

68150. *TRAGOPOGON LONGIROSTRIS* Bisch. Cichoriaceae.

A hardy biennial with narrow grass-like leaves and yellow flower heads. Native of southern Europe.

68151 to 68153.

From the Balearic Islands and Morocco. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received August 20, 1926.

68151. *CERATONIA SILIQUA* L. Caesalpiniaceae.
Carob.

San Antonio, Iviza, Balearic Islands. August 15, 1925. Variety *Pauseca*. One of the best sorts in this section.

68152. *POLYCARPÆA NIVEA* (Ait.) Webb. Silenaceae.

Obtained near Mogador, Morocco. June 5, 1925. A low-growing gray hairy perennial plant used extensively and successfully in the sand-binding experiments on the sand dunes.

68153. *THYMUS ZYGIS* L. Menthaceae.

San Antonio, Iviza, Balearic Islands. August 14, 1925. *Frigola*. An aromatic plant from which a strong intoxicant is brewed.

68154 to 68157.

From Honolulu, Hawaii. Seeds presented by C. S. Judd, superintendent of forestry. Received August 20, 1926.

68154. *COLUBRINA OPPOSITIFOLIA* Brongn. Rhamnaceae.

A small evergreen tree, with opposite, oval or oblong papery leaves up to 7 inches in length. The wood is very hard and was once used by the native Hawaiians for making spears.

68155. *KOKIA ROCKII* Lewton. Malvaceae.
Kokio.

A Hawaiian tree, up to 40 feet in height, closely related to cotton (*Gossypium* spp.). When covered with its large orange-red flowers it is of striking beauty.

68156. *MEZONEURUM KAUAIENSE* (Mann.) Hillebr. Caesalpiniaceae.

A leguminous tree growing to a height of 30 feet. The blossoms are red, and the hard, black heartwood is used by the Hawaiians for clubs and fapa beaters. (Judd.)

68157. *MYOPORUM SANDWICENSE* (A. DC.) A. Gray. Myoporaceae.

A tree 20 to 30 feet high, or sometimes a shrub, with alternate oblong leaves,

68154 to 68157—Continued.

up to 6 inches long, crowded toward the ends of the branches, and clusters of small white flowers. The heartwood becomes very fragrant when dried, with an odor resembling that of sandalwood.

68158 to 68169. IRIS spp. Iridaceae.

From Tiflis, Georgia, Russia. Rhizomes presented by A. Grossheim, director, botanic garden. Received September 1, 1926.

68158. *IRIS ACUTILOBA* Meyer.

A wild iris native to the Caucasus, with purple and fawn-colored flowers.

For previous introduction see No. 67018.

68159. *IRIS CARTHALINIAE* Fourn.

A Caucasian iris described (Moniteur du Jardin Botanique de Tiflis, 1909) as having a thick rhizome, and four-flowered or five-flowered stems nearly 3 feet high. The sword-shaped leaves are about two-thirds of an inch wide, and the flowers are light blue. In its native country the plant grows in damp places.

For previous introduction see No. 64297.

68160. *IRIS FOMINII* Hort.

A horticultural variety.

68161. *IRIS APHYLLA* L. Stool iris.

A European iris with glaucescent leaves up to a foot long or sometimes leafless. The dark-lilac flowers are about 2 inches long.

For previous introduction see No. 66930.

68162. *IRIS GROSSHEIMII* Hort.

A horticultural variety.

68163. *IRIS IBERICA* Hoffm. Iberian iris.

A dwarf, nearly stemless iris, native to mountainous parts of Asia Minor, with narrow leaves 3 to 6 inches long, and large flowers; these have pale-brown outer segments blotched with purple-brown, and pure white inner segments, although these colors are not constant.

68164. *IRIS LYCOTIS* Worm.

A species belonging to the *Oncocycclus* section and probably related to *Iris acutiloba*.

68165. *IRIS MUSULMANICA* Fourn.

An iris from the vicinity of Elisabethopol, Caucasus, which, according to the Moniteur du Jardin Botanique de Tiflis (vol. 14, 1909), inhabits brackish swamps. It is less than 2 feet tall, and the flowers are either sky-blue or yellowish.

For previous introduction see No. 67917.

68166. *IRIS PARADOXA* Stev. Velvet iris.

A dwarf, linear-leaved iris, 2 to 6 inches high, with large lilac or white flowers. Native to northern Persia and Asia Minor, where it grows in dry situations.

68167. *IRIS RETICULATA* Bieb. Netted iris.

A tufted iris, native to Asia Minor, with short erect leaves about 1½ feet high, a very short stem, and very fragrant, bright-purple flowers with the outer segments about 2 inches long.

68158 to 68169—Continued.

68168. IRIS SCHELKOWNIKOWI Fomin.

A species belonging to the *Oncocyclus* section and probably related to *Iris acutiloba*.

68169. IRIS TASCHIA Hort.

A horticultural variety.

For previous introduction see No. 64300.

68170. POPULUS MAXIMOWICZII A. Henry. Salicaceae. Poplar.

From Jamaica Plain, Mass. Cuttings presented by the Arnold Arboretum. Received November 8, 1922. Numbered September, 1926.

A very fast growing and stately tree native to China. It will succeed in the coldest portions of the United States on the poorest and driest soils. At all times it makes phenomenally rapid growth. Its leaves, which are handsomely crinkled like those of *Rosa rugosa*, appear very early in the spring and remain longer in the fall than those of almost any other deciduous plant. The tree is not attacked by borers or leaf-eating insects. It is highly recommended as a shade tree and windbreak generally, especially for the northwest Plains country.

For previous introduction see No. 51877.

68171 to 68177.

From Leningrad, Russia. Seeds presented by A. Kol, chief, bureau of introduction, Institute of Applied Botany. Received August 23, 1926.

68171. BROMUS INERMIS Leyss. Poaceae. Brome grass.

No. 7393. A perennial European grass, with creeping rhizomes and stems up to 30 inches high.

68172. FESTUCA ELATIOR L. Poaceae. Meadow fescue.

No. 2963. A loosely tufted perennial European grass with short creeping rootstalks and erect stems up to 4 feet high.

68173. LENS ESCULENTA Moench. Fabaceae. Lentil.

No. 3455. An annual legume, 1½ feet high, of Russian strain, native to southern Europe.

68174 and 68175. PHASEOLUS VULGARIS L. Fabaceae. Common bean.

Russian varieties.

68174, No. 2892. *Bomba*. Variety *elipticus*.68175, No. 2908. Variety *oblongus*.68176. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 6984. Variety *ferrugineum*. A Russian strain.

68177. VICIA ERVILIA (L.) Willd. Fabaceae. Vetch.

No. 3453. An annual erect vetch, native to the Mediterranean countries.

68178. AMYGDALUS PERSICA NECTARINA Ait. Amygdalaceae. Nectarine.

From Chico, Calif. A variety of unknown origin, grown at the United States Plant

Introduction Garden under No. 26503, but distinct from the original trees of that number. Numbered September, 1926.

(Trees 7 and 8, new test orchard, propagated from trees 4 and 5, old test nursery.) Fruit very large, spherical, about 2½ inches in diameter; stem heavy; skin almost uniformly yellow-green, sometimes overlaid with more or less red; flesh medium firm, greenish white, moderately juicy, mildly subacid, of good rich flavor and of excellent quality; pit of medium size, slightly staining flesh. Fruit ripens at Chico the latter part of August.

68179. GARCINIA BENTHAMII Pierre. Clusiaceae.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture, through Dr. W. A. Orton, director, Tropical Plant Research Foundation, Washington, D. C. Received August 31, 1926.

A small, evergreen, rapidly growing tropical tree, closely related to the mangosteen (*Garcinia mangostana*). The edible fruits are very similar to those of the mangosteen except that they are slightly smaller, bright red, and have very acid flesh; probably suited for making preserves. Native to low altitudes in the Philippines.

68180 to 68293.

From Gandja, Transcaucasia, Russia. Seeds presented by the Director, Central Transcaucasian Agricultural Plant Breeding and Experiment Station. Received August 30, 1926.

Locally grown strains.

68180 to 68229. HORDEUM spp. Poaceae.

68180. HORDEUM DISTICHON PALMELLA Harlan. Two-rowed barley.

No. 8.

68181 to 68200. HORDEUM VULGARE NIGRUM (Willd.) Beaven.

Six-rowed barley.

68181, No. 10. 68191, No. 158.

68182, No. 11. 68192, No. 159. —

68183, No. 116. 68193, No. 160.

68184, No. 118. 68194, No. 161.

68185, No. 144. 68195, No. 162.

68186, No. 145. 68196, No. 163.

68187, No. 151. 68197, No. 164.

68188, No. 154. 68198, No. 165.

68189, No. 155. 68199, No. 167.

68190, No. 157. 68200, No. 169.

68201 to 68229. HORDEUM VULGARE PALIDUM Seringe. Six-rowed barley.

68201, No. 3. 68210, No. 111.

68202, No. 4. 68211, No. 112.

68203, No. 7. A 68212, No. 114.

white variety. 68213, No. 123.

68204, No. 9. 68214, No. 124.

68205, No. 12. 68215, No. 125.

68206, No. 104. 68216, No. 126.

68207, No. 105. 68217, No. 127.

68208, No. 106. 68218, No. 128.

68209, No. 107. 68219, No. 129.

68180 to 68293—Continued.

68220. No. 132.	68225. No. 140.
68221. No. 133.	68226. No. 141.
68222. No. 134.	68227. No. 142.
68223. No. 138.	68228. No. 146.
68224. No. 139.	68229. No. 190.

68230 to 68293. TRITICUM spp. Poaceae.

68230 to 68236. TRITICUM AESTIVUM L.
(*T. vulgare* Vill.). Common wheat.

68230. No. 329.	68234. No. 357.
68231. No. 335.	68235. No. 408.
68232. No. 336.	68236. No. 413.
68233. No. 338.	

68237 to 68291. TRITICUM DURUM Desf.
Durum wheat.

68237. No. 5.	68265. No. 64.
68238. No. 6.	68266. No. 65.
68239. No. 9.	68267. No. 66.
68240. No. 12.	68268. No. 67.
68241. No. 13.	68269. No. 77.
68242. No. 14.	68270. No. 81.
68243. No. 17.	68271. No. 86.
68244. No. 18.	68272. No. 87.
68245. No. 20.	68273. No. 100.
68246. No. 22.	68274. No. 117.
68247. No. 23.	68275. No. 128.
68248. No. 24.	68276. No. 134.
68249. No. 25.	68277. No. 160.
68250. No. 26.	68278. No. 194.
68251. No. 27.	68279. No. 224.
68252. No. 28.	68280. No. 232.
68253. No. 29.	68281. No. 331.
68254. No. 30.	68282. No. 333.
68255. No. 34.	68283. No. 354.
68256. No. 37.	68284. No. 356.
68257. No. 39.	68285. No. 358.
68258. No. 41.	68286. No. 360.
68259. No. 43.	68287. No. 362.
68260. No. 52.	68288. No. 410.
68261. No. 54.	68289. No. 415.
68262. No. 55.	68290. No. 422.
68263. No. 56.	68291. No. 445.
68264. No. 63.	

68292 and 68293. TRITICUM POLONICUM
L. Poaceae. Polish wheat.

68292. No. 332.	68293. No. 351.
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68294. AGAVE FUNKIANA Koch and
Bouche. Amaryllidaceae.

From Ciudad Victoria, Tamaulipas, Mexico. Seeds presented by Bernardo Zorrilla's Sons, through L. H. Dewey, Bureau of Plant Industry. Received September 16, 1926.

This plant grows wild on the mountain sides surrounding the Jaumave and Las Palmas Valleys, in the State of Tamaulipas. The leaves are 5 to 7 centimeters wide

and 50 to 100 centimeters long, with horny borders bearing sharp-hooked prickles and a terminal spine. The fiber, known in the market as Jaumave itle, is cleaned by hand from the leaves forming the central cogollos or buds. This fiber is used in the manufacture of brushes and also twines. The plant has not been cultivated commercially, but it may be propagated either from seeds or from suckers. (*Dewey*.)

68295. DOLICHOS LABLAB L. Fabaceae.
Hyacinth bean.

From Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 14, 1926. Numbered September, 1926.

No. 539. March 4, 1926. Seeds black with a white hilum; plant found growing along the shore of Lake Tewar, near Taken-gon.

68296 to 68298.

From Sumatra and Ceylon. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received August 31, 1926.

68296. PHASEOLUS SCABERULUS Miquel.
Fabaceae.

From Sumatra. A twining, leguminous vine, with hairy stems and leaves, and leaflets up to 3½ inches in length, according to Miquel (*Flora Indiae Batavae*, vol. 1, pt. 1, 197). It is native to Java.

68297. SOPHORA TOMETOSA L. Fabaceae.

No. 436. Found on the beach at Pulu We, near Sebang, Sumatra. February 17, 1926. A beach-loving shrub with attractive foliage.

For previous introduction see No. 46446.

68298. (Undetermined.)

February, 1926. A leguminous vine found on salt plains near the sea at Jaffna, Ceylon.

68299 and 68300.

From Teneriffe, Canary Islands. Seeds presented by Juan Bolinaga, Jardin de Aclimatación de Orotava. Received September 1, 1926.

68299. JUNIPERUS CEDRUS Webb. Pina-
ceae. Juniper.

A Canary Island relative of the common juniper, differing only in minor botanical characters and also in being less hardy. According to Bean (*Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 669), Dr. Georges Perez of Orotava, Canary Islands, reported trees of this species with trunks a yard or more in diameter. The leaves are uniformly awl-shaped and in whorls of threes. The wood is pleasantly perfumed.

For previous introduction see No. 57080.

68300. PINUS CANARIENSIS C. Smith.
Pinaceae. Canary pine.

A pine, native to the Canary Islands, which thrives in warm temperate climates. It is suited to nearly all soils and has a straight trunk even when it grows in an isolated position. The wood of this pine, known in the Canary Islands as

68299 and 68300—Continued.

"tea," is very hard, very difficult to work, but unequaled for duration and building purposes because it does not rot.

For previous introduction see No. 62096.

68301 to 68323. *VITIS VINIFERA* L. Vitaceae. Grape.

From Teheran, Persia. Cuttings presented by F. J. Harris, Teheran, at the request of the Earl of Chichester, through Thomas Cook & Sons, New York, N. Y. Received March 24, 1926. Numbered September, 1926.

- 68301. No. 1. *Eskari Riz.*
- 68302. No. 2. *Sahebi.*
- 68303. No. 3. *Kechwechi Bleue.*
- 68304. No. 4. *Lal Guermez.*
- 68305. No. 5. *Chali Sar.*
- 68306. No. 6. *Umagun.*
- 68307. No. 7. *Kechwechi Rouge.*
- 68308. No. 8. *Cefid.*
- 68309. No. 9. *Lal Cefid.*
- 68310. No. 10. *Quanque.*
- 68311. No. 11. *Tagouti Rouge.*
- 68312. No. 13. *Kalili.*
- 68313. No. 14. *Takri.*
- 68314. No. 15. *Lore Koche.*
- 68315. No. 16. *Chani Rouge.*
- 68316. No. 17. *Chirazi.*
- 68317. No. 18. *Sahabi Charial.*
- 68318. No. 19. *Jagonti Charial.*
- 68319. No. 20. *Hadjes Guermez.*
- 68320. No. 21. *Melhi Khany.*
- 68321. No. 22. *Angur Kalili.*
- 68322. No. 23. *Angur Noir Grande.*
- 68323. No. 24. *Ceskarg Charial.*

68324. *DAVIDIA INVOLUCRATA* Baill. Cornaceae. Dove tree.

From Newry, Ireland. Plant purchased from T. Smith, Daisy Hill Nursery. Received September 24, 1926.

The Chinese dove tree, as this is sometimes called, is a native of the mountain forests of central and western China. In its native home it becomes a tree 75 feet tall, with a shapely pyramidal crown. When in bloom the tree is unusually striking because of the two or three large, snow-white bracts which subtend each flower. These bracts are of unequal size, the largest being 4 to 8 inches long and 2 to 4 inches broad. The bright-green, oval, sharply toothed leaves are 3 to 6 inches long.

For previous introduction see No. 65439.

68325 to 68348.

From Darjiling, India. Seeds presented by G. H. Cave, Curator, Lloyd Botanic Garden. Received September 9, 1926.

68325. *ACACIA CATECHU* (L. f.) Willd. Mimosaceae.

The pale-yellow gum obtained from this acacia has very strong adhesive

68325 to 68348—Continued.

powers and is considered a better substitute for gum arabic than that of *Acacia arabica*, according to Watt (Dictionary of the Economic Products of India, vol. 1). The tree is found wild in parts of India and Burma, where it sometimes becomes 70 feet high, though usually smaller. The leaves are very finely pinnate, and the white or pale-yellow flowers are in spikes.

For previous introduction see No. 65246.

68326. *ACACIA PENNATA* (L.) Willd. Mimosaceae.

A climbing, prickly shrub, up to 20 feet in height, with very narrow, rigid leaflets and dense panicles of yellow flower heads. Native to the central and eastern Himalayas.

68327 to 68329. *ACER* spp. Aceraceae. Maple.68327. *ACER CAMPBELLII* Hook. f. and Thoms.

The pleasing contrast of the bright-green leaves and red stalks of this Himalayan maple make it worthy of a trial as an ornamental shade tree for the warmer parts of the United States. In its native country the grayish white, moderately hard timber is used for cabinetwork and for planking.

For previous introduction see No. 58901.

68328. *ACER HOOKERI* Miquel.

A handsome tree 40 to 50 feet high, with deeply fissured brown bark, native to the Sikkim Himalayas at altitudes of 8,000 to 10,000 feet. The oval leaves, though usually green, are sometimes copper colored. The wood is gray with small pores and very numerous fine red medullary rays.

For previous introduction see No. 58902.

68329. *ACER OBLONGUM* Wall.

A subtropical maple described by Hiern (Hooker, Flora of British India, vol. 1) as a tree 40 to 50 feet tall, with a trunk 1 or 2 feet in diameter, and dark-green, oblong, entire leaves up to 7 inches long. The reddish wood is used for making agricultural implements.

For previous introduction see No. 62808.

68330. *ALNUS NEPALENSIS* D. Don. Betulaceae. Alder.

A tree up to 70 feet high, with a trunk 3 to 4 feet in diameter, which is very common all over Yunnan at altitudes of 4,000 to 7,000 feet. It is a rapid grower, used chiefly for firewood, and appears to thrive in spite of the tall grass, 5 to 8 feet high, which surrounds it. I would recommend it strongly for planting in grassland where trees can not usually be grown. (Note by J. F. Rock, under No. 56636.)

68331. *CAPPARIS OLACIFOLIA* Hook. f. and Thoms. Capparidaceae.

An erect, thorny shrub, 6 to 8 feet tall, with shining green leaves and large, axillary flowers, white with blue anthers. The shrub is found in the tropical valleys of the Himalayas from Nepal to Assam.

For previous introduction see No. 47653.

68325 to 68348—Continued.

68332. *CLEMATIS GOURIANA* Roxb. Ranunculaceae.

A tall-climbing, subtropical clematis, with pinnate or bipinnate shining-green leaves, and large panicles of white or yellowish flowers. Native to the western Himalayas at altitudes up to 3,000 feet.

For previous introduction see No. 50336.

68333. *CLEMATIS MONTANA* Buch.-Ham. Ranunculaceae.

A vigorous subtropical climber, native to the Himalayas, which often attains a stem length of 20 feet. The sweet-scented, white flowers, with conspicuous yellow stamens, are about 2 inches across and are produced in several-flowered axillary clusters.

For previous introduction see No. 50337.

68334. *ERYTHRINA ARBORESCENS* Roxb. Fabaceae. Coral tree.

When covered with its bright-scarlet flowers this small tree is very attractive and is often planted as an ornamental in the streets of Darjiling. There are but few prickles on its branches, and the thin greenish leaves are often a foot in width. The strongly curved pods are about an inch wide and 6 to 9 inches long. The tree is found native in the central and eastern Himalayas at altitudes ranging up to 7,000 feet.

For previous introduction see No. 58907.

68335. *ERYTHRINA VARIEGATA* Stickm. (*E. indica* Lam.). Fabaceae. Coral tree.

A moderate-sized, quick-growing, deciduous tree, native throughout India, and cultivated in many parts of the Tropics. The clusters of large bright-red flowers appear before the leaves. The pods, 4 to 8 inches long, contain several dark carmine seeds. The flowers are dried for use as a dye; the bark is used for tanning and dyeing and yields an excellent, pale straw-colored fiber. The leaves are used as cattle fodder; the bark and leaves are also used medicinally. The open-grained, light wood is durable and does not split or warp; it is used for boxes, toys, and also for firewood. Much of the lacquered ware of India is made of the wood of this tree.

For previous introduction see No. 54898.

68336. *FICUS HOOKERI* Miquel. Moraceae. Fig.

A subtropical tree with large, oval leaves up to 11 inches in length, native to the temperate Himalayas of north-eastern India. It is of possible use as a shade tree for the warmer parts of the Gulf States and California.

For previous introduction see No. 49635.

68337. *FRAXINUS FLORIBUNDA* Wall. Oleaceae. Ash.

A large handsome deciduous tree, native to the more temperate portions of the Himalayas at altitudes up to 11,000 feet. The leaves, up to 15 inches long, are composed of seven to nine leaflets, and the white flowers are in large terminal panicles.

For previous introduction see No. 50366.

68325 to 68348—Continued.

68338. *HIBISCUS PUNGENS* Roxb. Malvaceae.

An erect bristly annual or perennial, native to the tropical Himalayas, with roundish heart-shaped, deeply lobed leaves 5 to 8 inches long and purple-centered yellow flowers 5 inches in diameter.

For previous introduction see No. 47691.

68339. *LUCULIA GRATISSIMA* (Wall.) Sweet. Rubiaceae.

A tree or spreading shrub, native to the temperate Himalayas, where it attains a height of 10 to 16 feet. It is a very attractive ornamental because of the gorgeous rounded masses of pink or rose-colored flowers. It is said to make an excellent table plant when grown in a pot and treated somewhat similarly to a gardenia.

For previous introduction see No. 47710.

68340. *MIMOSA RUBICAULIS* Lam. Mimosaceae.

A low straggling spiny shrub or small tree, native throughout India up to 5,000 feet altitude. The thin, finely pinnate foliage and reddish yellow flower heads make the shrub of possible value as an ornamental in the warmest parts of the United States. It is said also to make a good hedge.

For previous introduction see No. 55749.

68341. *XOLISMA OVALIFOLIA* (Wall.) Rehd. (*Andromeda ovalifolia* Wall.). Ericaceae.

Although this shrub or small tree may prove of value as a semihardy ornamental because of its racemes of bluish or white flowers, it is used as an insecticide in its native country, India, because of the presence of a poisonous principle in the young leaves and buds. The oblong, leathery leaves are 3 to 6 inches long.

For previous introduction see No. 64121.

68342. *QUERCUS INCANA* Roxb. Fagaceae. Oak.

A large evergreen oak from the mountains of eastern India, with bark rich in tannin and acorns which are eaten by the wild animals of the Himalayas.

For previous introduction see No. 61621.

68343 to 68345. *RHODODENDRON* spp. Ericaceae.

68343. *RHODODENDRON CILIATUM* Hook. f. Fringed rhododendron.

A Himalayan rhododendron of somewhat dwarf habit, bearing many small loose trusses of pinkish white flowers less than 3 inches wide. It rarely exceeds 6 feet in height.

For previous introduction see No. 58919.

68344. *RHODODENDRON GRANDE* Wight.

A handsome shrub about 15 feet high, native to the Himalayas. It bears numerous loose trusses of bell-shaped flowers about 2½ inches in diameter. These are at first suffused

68325 to 68348—Continued.

with a faint rose tint which later changes to white.

For previous introduction see No. 58923.

68345. RHODODENDRON MADDENI Hook. f.

A shrub 6 to 8 feet high with red-stemmed, dark-green leaves. The large delicately fragrant flowers, tinged with rose, are produced in threes at the ends of the branches. Native to the Himalayas.

For previous introduction see No. 58927.

68346. RUBUS ROSAEFOLIUS J. E. Smith. Rosaceae.

A Philippine raspberry, which, as described by Brown (Wild Food Plants of the Philippines, p. 66), is a spiny shrub, rarely over 3 feet high, common in the mountains of Luzon, the Visayan Islands, and Mindanao, Philippine Islands. The red fruits, borne singly or in clusters, are about 1.5 centimeters in diameter; they are juicy but rather insipid.

For previous introduction see No. 65267.

68347. VACCINIUM DUNALIANUM Wight. Vacciniaceae. Blueberry.

A large erect subtropical shrub with narrow oblong slender-tipped leaves and axillary clusters of small inconspicuous flowers. It is native to the mountainous sections of northern and eastern India.

For previous introduction see No. 60667.

68348. VIBURNUM STELLULATUM Wall. Caprifoliaceae.

A large evergreen shrub with small orange-red berries, native to the temperate Himalayas, and said to be hardy in England.

68349. BAMBUSA MURIAKI Hort. Poaceae. Bamboo.

From France. Plant obtained through the Federal Horticultural Board. Received April 20, 1926. Numbered September, 1926.

A Japanese bamboo.

68350. PHOENIX DACTYLIFERA L. Phoenicaceae. Date palm.

From Culiacan, Sinaloa, Mexico. Seeds presented by C. J. Stafford, through T. Ralph Robinson, Bureau of Plant Industry. Received September 8, 1926.

Mexican-grown date seeds.

68351. CHALCAS KOENIGII (L.) KURTZ (Murraya koenigii Spreng.). Rutaceae.

From Peradeniya, Ceylon. Plants obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 19, 1926.

No. 894. Peradeniya Botanic Gardens. June 9, 1926. A small tree of the orange family closely related to the orange jasmine (*Murraya exotica*), but with larger leaves and less attractive habit. The fresh leaves form a constant ingredient of the Ceylon curries and give them a very agreeable flavor.

68352 to 68355.

From New South Wales, Australia. Trees received during July and September, 1923, at the United States Plant Introduction Garden, Chico, Calif., where these trees are now growing. Numbered September, 1926.

68352 to 68354. AMYGDALUS PERSICA L. (Prunus persica Stokes). Amygdalaceae. Peach.

68352. *Pullar's Cling*. Fruits nearly spherical, about $2\frac{1}{2}$ inches long; skin dark rich yellow overlaid on one side with red blush or striping; flesh firm, dark lemon yellow or orange, somewhat rough, medium juicy, slightly red at pit, slightly acid, flavor good. Appears to have the qualities of a good canning peach.

68353. *Golden Queen*. Fruits generally spherical, about $2\frac{1}{4}$ inches long; skin firm, uniformly orange-yellow, with medium heavy fine tomentum; flesh firm, medium fine texture, orange-yellow, medium juicy, mildly subacid, clinging tightly to pit, of good quality, but lacking in special aroma, not stained at pit; pit medium size. Appears to be a good canning peach.

68354. *Goodman's Choice*. Fruits spherical, about $2\frac{1}{4}$ inches long; skin medium firm, ground color yellow, overlaid in part or almost entirely with dark red, medium heavy fine tomentum; flesh dark yellow, almost orange, firm, medium juicy, medium fine texture, with little or no staining at pit, of rich sweet flavor; pit medium or small. Would make an excellent canning peach.

68355. PRUNUS ARMENIACA L. Amygdalaceae. Apricot.

Trevatt. Trees 9 to 14 feet high, yielding well. Fruits almost round, 2 inches in diameter, yellow; skin smooth; flesh apricot yellow, rather soft, sweet, of fair quality; pit large, loose in cavity. Ripen at Chico, Calif., in June.

68356 and 68357.

From Ceylon and Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February and May, 1926. Numbered September, 1926.

68356. BROWNEA MACROPHYLLA Masters. Caesalpiniaceae.

No. 301. Peradeniya Gardens, Ceylon. January 9, 1926. A beautiful plant bearing very large clusters of bright-rose flowers with long protruding bright-colored stamens. It is one of the rare ornamental trees from Colombia.

68357. ARTOCARPUS ELASTICA Reinw. Moraceae.

No. 712. Sibolangit Botanic Gardens, Sumatra. March 26, 1926. A tree which grows to a height of 40 meters. The young trees furnish a fiber, and the latex is a remarkable bird lime. The fruits are eaten by the Battaks.

For introduction of seeds see No. 67673.

68353. DICELLOSTYLES AXILLARIS
(Thwaites) Benth. Malvaceae.

From Peradeniya, Ceylon. Seeds presented by F. A. Stockdale, Director of Agriculture. Received September 10, 1926.

A malvaceous tree, closely related to cotton (*Gossypium* spp.), with narrowly oval leaves about 4 inches long, white flowers, and globose, hispid capsules. Native to Ceylon.

68359. RUBUS FRAXINIFOLIUS Poir.
Rosaceae.

From the Philippine Islands. Seeds presented by P. J. Wester, Ballston, Va. Received September 24, 1926.

Palawan. A tropical raspberry, described (Brown, Wild Food Plants of the Philippines, p. 63) as a scrambling shrub, with branches 2 to 4 meters long, which is very common in the mountains from Luzon to Mindanao, Philippine Islands. The stems and leaves are armed with sharp spines, and the white flowers are about 2 cm. across. The bright-red berries, 10 to 15 mm. in diameter, borne in clusters, are fairly juicy and edible, but rather tasteless.

68360. (Undetermined.)

From Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 14, 1926. Numbered September, 1926.

No. 669. Between Takengon and Bireun. March 9, 1926. A very striking tree with purple, olive-shaped fruits hanging from brown capsules.

68361 to 68403.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received September 14, 1926.

68361. ALEURITES MONTANA (Lour.) Wilson. Euphorbiaceae. **Mu-oil tree.**

No. 242. Baptist Mission Compound, Wuchow, Kwangsi. November 18, 1925. *Tung yau*. Trees of average yield growing at the foot of a terrace in yellow-clay granitic subsoil, with their roots partly in filled soil of the same composition, but naturally looser in texture.

For previous introduction see No. 66064.

68362 to 68402. ORYZA SATIVA L. Poaceae. **Rice.**

In general there are two harvests of rice each year in this latitude, one in July or August and another in October or November. It is of interest that the varieties planted for the first crop are apparently distinct from those which are planted for the second crop. Preliminary experiments carried out at the Canton Christian College confirm this. When the first-crop variety is planted at the second-crop season, or vice versa, it does not develop and ripen properly or at the expected time. It may be that the two groups have different adaptations as to length of day required for bringing them to proper flowering and fruition. The second-crop varieties, in general, are said to be of better quality, possibly because of the fine weather that usually prevails during the ripening and harvesting time. It is said that poor soil, while yielding less, gives a better quality of grain.

68361 to 68403—Continued.

68362 to 68373. These seeds of second-crop varieties were obtained at Fohsuen, Lohkongtung district.

68362. No. 442. Paang chim. Starchy.

68363. No. 443. Shue nga kuk. Starchy.

68364. No. 444. Chim tsai kuk. Starchy.

68365. No. 445. Wong hok yau chim kuk. Starchy.

68366. No. 446. Paak hok yau chim kuk. Starchy.

68367. No. 447. Paak hin tsai neh kuk. Glutinous.

68368. No. 448. Tsai mei chim kuk. Starchy.

68369. No. 449. Kam fung kuk. Starchy.

68370. No. 450. Sz miu kuk. This is one of the two most popular starchy varieties because of the excellent quality.

68371. No. 451. So kuk. A bearded, starchy variety.

68372. No. 452. Taai neh kuk. Glutinous.

68373. No. 453. On naam neh kuk. Glutinous.

68374. No. 454. Chiu on lai chim kuk. A starchy second-crop variety which has been growing at the Canton Christian College for four years. The growing season is about 104 days, and the average yield is about 2,400 pounds per acre.

68375. No. 455. Toi shaan hung tau tsai kuk. A starchy second-crop variety originally from the Toishaan district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is about 89 days, and the yield is about 1,800 pounds per acre.

68376. No. 456. Tung koon tai chim kuk. A starchy second-crop variety originally from the Tungkoon district, which has been growing at the Canton Christian College. This is one of the most popular second-crop varieties of rice because of its excellent quality.

68377. No. 457. Lok cheung maah kuk. A starchy second-crop variety, originally from the Lokcheung district, which has been growing at the Canton Christian College for the last year. The growing season is 89 days, and the yield is about 1,100 pounds per acre.

68378. No. 458. Toi shaan sheung kong chim kuk. An early starchy second-crop variety originally from the Toishaan district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 91 days, and the yield is about 800 pounds per acre.

68379. No. 459. Kwai peng paak fa chim kuk. A starchy second-crop variety, originally from the Kwai peng district, which has been growing at the Canton Christian College for four years. The growing season is about 101 days, and the average yield is about 2,600 pounds per acre.

68361 to 68403—Continued.

68380. No. 460. *Foh shiu chim kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for one year. The growing season is 91 days, and the yield is about 1,140 pounds per acre.
68381. No. 491. *Wong hok noh kuk*. A glutinous second-crop variety which has been grown at the Canton Christian College for four years. The growing season is about 105 days, and the average yield is about 2,200 pounds per acre.
68382. No. 462. *Paak hok sheung kong chim kuk*. An early starchy second-crop variety which has been grown at the Canton Christian College for the last year. The growing season is 91 days, and the yield is about 2,400 pounds per acre.
68383. No. 463. *Wan fau paak kuk tsai*. A starchy second-crop variety, originally from the Wanfa district, which has been grown at the Canton Christian College for the last year. The growing season is 95 days, and the yield is about 2,100 pounds per acre.
68384. No. 464. *Tsuen shui kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for the last four years. The average growing season is 105 days, and the average yield is about 2,600 pounds per acre.
68385. No. 465. *Ng wa hoi woh*. A starchy second-crop variety, originally from the Ngwa district, which has been growing at the Canton Christian College for the last year. The growing season is 99 days, and the yield is about 1,600 pounds per acre.
68386. No. 466. *King chow paak fa chim kuk*. A starchy second-crop variety originally from Kingchow, in the island of Hainan, which has been grown at the Canton Christian College for one year. The growing season is 100 days, and the yield is about 2,300 pounds per acre.
68387. No. 467. *Haung kwang noh*. A second-crop glutinous variety which has been grown at the Canton Christian College for one year. The growing season is 90 days, and the yield is about 500 pounds per acre.
68388. No. 468. *Naam hoi yau chim kuk*. A starchy second-crop variety originally from the Naamhoi district, which has been grown at the Canton Christian College for the last four years. The growing season is about 103 days, and the average yield is about 3,000 pounds per acre.
68389. No. 469. *Shui kai noh kuk*. A glutinous second-crop variety originally from Shukai, which has been grown at the Canton Christian College for the last four years. The average growing season is 106 days, and the average yield is about 1,600 pounds per acre.
68390. No. 470. *Toi shaan cheung miu chui ue kuk*. A starchy second-crop variety originally from the Toishaan district, which has been

68361 to 68403—Continued.

- grown at the Canton Christian College for the last year. The growing season is 96 days, and the yield is about 2,100 pounds per acre.
68391. No. 471. *Hoi niu kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for the last four years. The average growing season is 105 days, and the average yield is about 2,300 pounds per acre.
68392. No. 472. *Paak hok yau chim*. A starchy second-crop variety which has been grown at the Canton Christian College for the last four years. The average yield is about 2,600 pounds per acre.
68393. No. 473. *Taai po paak hok noh kuk*. A glutinous second-crop variety which has been grown at the Canton Christian College for the last four years. The average growing season is 98 days, and the average yield is about 2,500 pounds per acre.
68394. No. 474. *Toi shaan oo uk tsai kuk*. A starchy second-crop variety originally from the Toishaan district, which has been grown at the Canton Christian College for the last year. The growing season is 96 days, and the yield is about 2,400 pounds per acre.
68395. No. 475. *Ng tsuen noh chaap kuk*. A glutinous second-crop variety originally from Ngtsuen, a village on Honam Island, which has been grown at the Canton Christian College for the last year. The growing season is 105 days, and the yield is about 2,600 pounds per acre.
68396. No. 476. *Tsang sheng sz miu kuk*. A starchy second-crop variety originally from the Tsangsheng district, which has been grown at the Canton Christian College for the last year. The growing season is 95 days, and the yield is about 2,200 pounds per acre.
68397. No. 477. *Heung shaan noh chaap kuk*. A glutinous second-crop variety originally from the Heungshaan district, which has been grown at the Canton Christian College for four years. The average growing season is 98 days, and the average yield is about 2,600 pounds per acre.
68398. No. 478. *Shui kai wong noh kuk*. A glutinous second-crop variety originally from Shuilai, which has been grown at the Canton Christian College for four years. The growing season is about 98 days, and the average yield is about 1,900 pounds per acre.
68399. No. 479. *Kam shaan chim kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for the last year. The growing season is 97 days, and the yield is about 1,400 pounds per acre.
68400. No. 480. *Sai chim kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for the last year. The growing season is 91 days, and the yield is about 1,200 pounds per acre.

68361 to 68403—Continued.

68401. No. 481. *Tung koon paai hok sz miu kuk*. A starchy second-crop variety originally from the Tung-koon district, which has been grown at the Canton Christian College for the last four years. The average growing season is 102 days, and the average yield is about 1,900 pounds per acre.

68402. No. 482. *Paak hok yau chim kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for four years. The average yield is about 2,400 pounds per acre.

68403. *SMILAX* sp. Smilacaceae.

No. 441. *Ma kaap*. An attractive ornamental vine with very large shiny leaves and large clusters of bright-red fruits which persist for a long period. Collected on Chauen Mountain, northern Kwantung.

68404 to 68414.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received September 18, 1926.

68404. *ACER BARBINERVE* Maxim. Aceraceae. **Maple.**

No. 6098. From the V. F. Kovalsky forest concession near Hengtaohotze. July 3, 1926. A shrubby maple, native to Manchuria, with coarsely toothed, five-lobed leaves.

For previous introduction see No. 65909.

68405. *ACER MANDSHURICUM* Maxim. Aceraceae. **Maple.**

No. 6099. From the V. F. Kovalsky forest concession, near Hengtaohotze. July 3, 1926. A hardy Manchurian maple which forms a shrub or small tree.

For previous introduction see No. 65480.

68406. *ACTAEA SPICATA* L. Ranunculaceae. **Black baneberry.**

No. 6325. From the White River Valley, near Bariam. July 24, 1926. A hardy herbaceous perennial, 3 feet high, with a rather long spike of bright-red, oblong berries.

For previous introduction see No. 65483.

68407. *AQUILEGIA OXYSEPALA* Trautv. and Mey. Ranunculaceae. **Columbine.**

No. 6304. Bariam. July 19, 1926. A hardy herbaceous perennial native to Siberia. The large flowers are blue, yellow, and white.

For previous introduction see No. 64766.

68408. *CALAMAGROSTIS* sp. Poaceae. **Grass.**

No. 6318. From the White River Valley, near Bariam. July 25, 1926. A grass from Manchuria, said to be good for hay.

68409. *CORNUS ALBA* L. Cornaceae. **Tartarian dogwood.**

No. 6324. From the White River Valley, near Bariam. July 24, 1926. A

68404 to 68414—Continued.

hardy ornamental shrub, native to Manchuria, producing creamy white fruits.

68410. *Daucus carota* L. Apiaceae. **Carrot.**

No. 6336. Pingtingchow, Shansi. August 2, 1926. A short thick red variety from northern China.

68411. *PRUNUS TOMENTOSA* Thunb. Amygdalaceae. **Manchu cherry.**

No. 6075. Purchased from the agricultural section of the Manchurian Research Society, Harbin. June 30, 1926. A hardy fruiting shrubby cherry, native to Manchuria.

68412. *RHEUM* sp. Polygonaceae. **Rhubarb.**

No. 6328. From the White River Valley, near Bariam. July 23, 1926. A vigorous variety with leaves 6 to 18 inches across and stalks 12 to 20 inches long and sometimes an inch in diameter.

68413. *SALIX LIVIDA CINERASCENS* Wahlenb. Salicaceae. **Willow.**

No. 6125. Boketu. July 5, 1926. A very dwarf willow with small leaves which are mottled above and quite tomentose beneath. The bark is yellow to yellowish brown.

68414. *CRATAEGUS SANGUINEA* Pall. Malaceae.

No. 6334. From the White River Valley, near Bariam. July 31, 1926. A hardy ornamental tree, native to Manchuria, with roundish red and yellow fruits. The tree from which this material was obtained was quite small, about 10 feet high and only about 3 inches in diameter.

For previous introduction see No. 65693.

68415 to 68419.

From Rangoon, Burma. Seeds presented through Richard R. Willey, United States vice consul in charge. Received September, 1926.

68415. *CHAETOCLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. **Millet.**

This millet is cultivated to a limited extent on light sandy soils in the dry districts.

68416. *ORYZA SATIVA* L. Poaceae. **Rice.**

Theikpan Taungdeikpan paddy gives the best table rice in Upper Burma and is in great demand.

68417. *PANICUM MILIACEUM* L. Poaceae. **Proso.**

This grain, like millet, is grown as a dry crop on high ground.

68418. *PISUM SATIVUM* L. Fabaceae. **Pea.**

A variety which is grown throughout Burma both as a field and a garden crop. It is generally sown on light soils and silts.

68419. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. **Common wheat.**

A variety of hard wheat grown in the plains of Burma (Sagaing, Shwebo, and Mandalay), which is generally used for making flour. It can be grown profitably on black cotton soil.

68420 to 68825.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received June, July, August, and September, 1926.

68420 to 68816. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). Fabaceae.
Soy bean.

The following seeds of huang tou (yellow bean) from the 1925 crop were obtained through the agricultural section of the Manchurian Research Society, Chinese Eastern Railway, during June, July, and August, 1926.

68420. No. 5820. Yaomyn. Beans yellow, almost round, with brown hilum. R. S.² No. 255.

68421. No. 5821. Shuanchenpu. Beans yellow, medium size, oblong; hilums brown.

68422. No. 5822. Shuanchenpu. Beans yellow, medium size, slightly oblong; hilums range from brown to almost black.

68423. No. 5823. Shuanchenpu. Beans yellow, of medium size, slightly oblong to round; hilums brown.

68424. No. 5824. Shuanchenpu. Beans yellow, of medium size, slightly oblong to round; hilums vary from brown to black.

68425. No. 5825. Antah. Beans yellow, slightly oblong to round, hilums vary from almost white to brown.

68426. No. 5826. Mangou. Beans yellow, hilums vary from white to nearly black.

68427. No. 5827. Shuanchenpu. Beans yellow, slightly oblong to round; hilums vary from brown to almost black.

68428. No. 5828. Shuanchenpu. Beans yellow, medium size, slightly oblong to almost round; hilums vary from brown to practically black.

68429. No. 5829. Shuanchenpu. Beans yellow, medium size, slightly oblong to nearly round; hilums vary from brown to almost black.

68430. No. 5830. Shuanchenpu. Beans yellow, medium size, oblong to almost round; hilums vary from brown to almost black.

68431. No. 5831. Antah. Beans yellow, medium size, oblong to nearly round; hilums vary from almost white to brown, sometimes to nearly black.

68432. No. 5832. Shuanchenpu. Beans yellow, medium size, oblong to practically round; hilums vary from nearly white to almost black.

68433. No. 5833. Shuanchenpu. Beans yellow, medium size, oblong to almost round; hilums range from brown to almost black.

68434. No. 5834. Shuanchenpu. Beans yellow, medium size, oblong to nearly round; hilums vary from light to dark brown, sometimes to nearly black.

68435. No. 5835. Antah. Beans yellow, average size, oblong to round; hilums vary from almost white to brown and nearly black.

68420 to 68825—Continued.

68436. No. 5836. Shuanchenpu. Beans yellow, medium size, oblong to round; hilums vary from brown to almost black. R. S. No. 17.

68437. No. 5837. Antah. Beans yellow, average size, oblong; hilums vary from almost white to dark brown. R. S. No. 146.

68438. No. 5838. Shuanchenpu. Beans yellow, medium size, oblong to nearly round; hilums vary from light to dark brown and almost black. R. S. No. 67.

68439. No. 5839. Shuanchenpu. Beans yellow, medium size, oblong to round; hilums vary from nearly white to brown and almost black. R. S. No. 20.

68440. No. 5840. Shuanchenpu. Beans yellow, below the average size, oblong to round; hilums grading from light to dark brown. R. S. No. 72.

68441. No. 5841. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums light brown. R. S. No. 43.

68442. No. 5842. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums dark brown ranging to almost black. R. S. No. 85.

68443. No. 5843. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown, sometimes to almost black. R. S. No. 45.

68444. No. 5844. Shuanchenpu. Beans yellow, below average size, oblong to round; hilums range from light to dark brown and in some cases to almost black. R. S. No. 51.

68445. No. 5845. Duitsinshan. Beans yellow, larger than the average, oblong to round; hilums vary from almost white to dark brown. R. S. No. 206.

68446. No. 5846. Shuanchenpu. Beans yellow, below the average size, oblong to round; hilums vary from light to dark brown. R. S. No. 73.

68447. No. 5847. Shuanchenpu. Beans yellow, average size, oblong to round; hilums vary from nearly white to dark brown, sometimes practically black. R. S. No. 57.

68448. No. 5848. Antah. Beans yellow, average size, oval to round; hilums vary from white to deep brown, sometimes to almost black. R. S. No. 186.

68449. No. 5849. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 225.

68450. No. 5850. Antah. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 187.

68451. No. 5851. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and almost black. R. S. No. 34.

² R. S.—Research Society.

68420 to 68825—Continued.

68452. No. 5852. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, in some instances to almost black. R. S. No. 100.
68453. No. 5853. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 25.
68454. No. 5854. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from white to dark brown. R. S. No. 209.
68455. No. 5855. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 59.
68456. No. 5856. Antah. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 193.
68457. No. 5857. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 361.
68458. No. 5858. Shuanchenpu. Beans yellow, average size, oblong to round; hilums vary from very light to very dark brown, sometimes to almost black. R. S. No. 53.
68459. No. 5859. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost white to light and dark brown. R. S. No. 24.
68460. No. 5860. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown. R. S. No. 2.
68461. No. 5861. Shuanchenpu. Beans yellow, less than average size, oval to almost round; hilums vary from light to dark brown, occasionally black. R. S. No. 13.
68462. No. 5862. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from very light to dark brown, sometimes to almost black. R. S. No. 286.
68463. No. 5863. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 40.
68464. No. 5864. Shuanchenpu. Beans yellow, below average size, oblong to round; hilums vary from white to dark brown, sometimes to almost black. R. S. No. 30.
68465. No. 5865. Shuanchenpu. Beans yellow, less than average size, oblong to round; hilums vary from light to dark brown, sometimes to almost black. R. S. No. 64.
68466. No. 5866. Shuanchenpu. Beans yellow, average size, oblong to round; hilums vary from light to quite dark brown, sometimes to almost black. R. S. No. 18.

68420 to 68825—Continued.

68467. No. 5867. Antah. Beans yellow, over average size, oblong to almost round; hilums vary from almost white to dark brown. R. S. No. 141.
68468. No. 5868. Antah. Beans yellow, average size, oblong to almost round; hilums almost white with a few light to dark brown. R. S. No. 150.
68469. No. 5869. Antah. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown. R. S. No. 158.
68470. No. 5871. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, with a few almost black. R. S. No. 31.
68471. No. 5872. Shuanchenpu. Beans yellow, below average size, oblong to round; hilums vary from light to dark brown, and occasionally to almost black. R. S. No. 26.
68472. No. 5873. Antah. Beans yellow, average size, oval to almost round; hilums are almost white, a few vary from light to dark brown. R. S. No. 203.
68473. No. 5874. Antah. Beans yellow, average size, oblong to almost round; hilums almost white. R. S. No. 147.
68474. No. 5875. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 22.
68475. No. 5876. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 371.
68476. No. 5877. Yaomyn. Beans yellow, average size, oval to almost round; hilums vary from very light to very dark brown and occasionally to almost black. R. S. No. 293.
68477. No. 5878. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown, occasionally to almost black. R. S. No. 81.
68478. No. 5879. Sanchahe. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 378.
68479. No. 5880. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown. R. S. No. 282.
68480. No. 5881. Yaomyn. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown. R. S. No. 282.
68481. No. 5882. Antah. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown. R. S. No. 178.
68482. No. 5883. Antah. Beans yellow, average size, oblong to nearly round; hilums are almost white. R. S. No. 161.

68420 to 68825—Continued.

68483. No. 5884. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown. R. S. No. 5.

68484. No. 5885. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from light to dark brown, sometimes to almost black. R. S. No. 38.

68485. No. 5886. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 10.

68486. No. 5887. Antah. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown. R. S. No. 162.

68487. No. 5888. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 70.

68488. No. 5889. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums rather dark brown. R. S. No. 64.

68489. No. 5890. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 66.

68490. No. 5891. Antah. Beans yellow, average size, oblong to nearly round; hilums are almost white. R. S. No. 168.

68491. No. 5892. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown, occasionally to almost black. R. S. No. 80.

68492. No. 5894. Antah. Beans yellow, average size, oblong to nearly round; hilums vary from white to dark brown. R. S. No. 125.

68493. No. 5895. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown. R. S. No. 69.

68494. No. 5896. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 78.

68495. No. 5897. Mangou. Beans yellow, average size, oblong to round; hilums mostly white, a few are light to dark brown and occasionally almost black. R. S. No. 312.

68496. No. 5898. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown. R. S. No. 302.

68497. No. 5899. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown; a few are almost black. R. S. No. 327.

68498. No. 5900. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 21.

68420 to 68825—Continued.

68499. No. 5901. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 369.

68500. No. 5902. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 354.

68501. No. 5903. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and frequently to almost black. R. S. No. 218.

68502. No. 5904. Antah. Beans yellow, average size, oval to almost round; hilums vary from nearly white to dark brown. R. S. No. 166.

68503. No. 5905. Shuanchenpu. Beans yellow, below medium size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 32.

68504. No. 5906. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 353.

68505. No. 5907. Mangou. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 310.

68506. No. 5908. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and sometimes to almost black. R. S. No. 333.

68507. No. 5909. Yaomyn. Beans yellow, less than average size, oblong to almost round; hilums vary from nearly white to dark brown. R. S. No. 291.

68508. No. 5910. Yaomyn. Beans yellow, smaller than the average size, oblong to almost round; hilums vary from nearly white to dark brown and sometimes to almost black. R. S. No. 292.

68509. No. 5911. Antah. Beans yellow, average size, oblong to almost round; hilums vary from white to dark brown and occasionally to almost black. R. S. No. 196.

68510. No. 5912. Antah. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 176.

68511. No. 5913. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 342.

68512. No. 5914. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 279.

68513. No. 5915. Antah. Beans yellow, average size, oblong to oval; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 183.

68420 to 68825—Continued.

68514. No. 5916. Shuanchenpu. Beans yellow, less than average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 46.
68515. No. 5917. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 281.
68516. No. 5918. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 373.
68517. No. 5919. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 304.
68518. No. 5920. Yaomyn. Beans yellow, less than average size, and almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 259.
68519. No. 5921. Yaomyn. Beans yellow, average size, oval to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 261.
68520. No. 5922. Antah. Beans yellow, above average size, oblong to almost round; hilums vary from nearly white to dark brown. R. S. No. 168.
68521. No. 5923. Duitsinshan. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 205.
68522. No. 5924. Mangou. Beans yellow, above the average size, almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 314.
68523. No. 5925. Antah. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 170.
68524. No. 5926. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and a few to almost black. R. S. No. 315.
68525. No. 5927. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 35.
68526. No. 5928. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 97.
68527. No. 5929. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 217.
68528. No. 5930. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 341.

68420 to 68825—Continued.

68529. No. 5931. Mangou. Beans yellow, average size, oval to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 365.
68530. No. 5932. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 15.
68531. No. 5933. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 6.
68532. No. 5934. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 262.
68533. No. 5935. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to black. R. S. No. 266.
68534. No. 5936. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from nearly white to dark brown and occasionally black. R. S. No. 216.
68535. No. 5937. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown and a few are almost black. R. S. No. 290.
68536. No. 5938. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 368.
68537. No. 5939. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, and a few are nearly black. R. S. No. 308.
68538. No. 5940. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from nearly white to dark brown with a few almost black. R. S. No. 87.
68539. No. 5941. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 33.
68540. No. 5942. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with a few almost black. R. S. No. 311.
68541. No. 5944. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with an occasional one almost black. R. S. No. 366.
68542. No. 5945. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown with a few almost black. R. S. No. 255.
68543. No. 5946. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 41.

68420 to 68825—Continued.

68544. No. 5947. Sanchahe. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 397.
68545. No. 5948. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 309.
68546. No. 5950. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 44.
68547. No. 5951. Mangou. Beans yellow, normal size, oblong to nearly round; hilums vary from almost white to dark brown; a few are almost black. R. S. No. 343.
68548. No. 5952. Mangou. Beans yellow, above average size, oblong to almost round; hilums vary from light to dark brown, but the majority are white. R. S. No. 301.
68549. No. 5953. Mangou. Beans yellow, average size, oblong to almost round; hilums are mostly white with a few light to dark colored. R. S. No. 340.
68550. No. 5954. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with a few almost black. R. S. No. 325.
68551. No. 5955. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown with an occasional one almost black. R. S. No. 247.
68552. No. 5956. Yaomyn. Beans yellow, below the average size, oval to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 260.
68553. No. 5957. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 321.
68554. No. 5958. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and an occasional one to almost black. R. S. No. 345.
68555. No. 5959. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 329.
68556. No. 5960. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 99.
68557. No. 5961. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 334.
68558. No. 5962. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly

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- white to dark brown, occasionally to almost black. R. S. No. 372.
68559. No. 5963. Antah. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown with a few almost black. R. S. No. 192.
68560. No. 5964. Antah. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 164.
68561. No. 5965. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 199.
68562. No. 5966. Sanchahe. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with a few almost black. R. S. No. 383.
68563. No. 5967. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown; occasionally one is almost black. R. S. No. 165.
68564. No. 5968. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and a few are almost black. R. S. No. 370.
68565. No. 5969. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown with a few almost black. R. S. No. 175.
68566. No. 5970. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, and a few are almost black. R. S. No. 331.
68567. No. 5971. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 359.
68568. No. 5972. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 48.
68569. No. 5973. Mangou. Beans yellow, average size oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 330.
68570. No. 5974. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 152.
68571. No. 5975. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown. R. S. No. 313.
68572. No. 5977. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 188.
68573. No. 5978. Anda. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown with a few almost black. R. S. No. 179.

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68574. No. 5979. Mangou. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 338.
68575. No. 5980. Yaomyn. Beans yellow, medium size, oblong to almost round; hilums vary from nearly white to dark brown, a few to almost black. R. S. No. 275.
68576. No. 5981. Mangou. Beans yellow, normal size, oblong to almost round; hilums vary from light to dark brown with an occasional one almost black. R. S. No. 355.
68577. No. 5982. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with a few almost black. R. S. No. 358.
68578. No. 6020. Duitsinshan. Beans are yellow; now and then there is one of another color, a selected sample of first grade, oblong to almost round; hilums vary from almost white to dark brown, and a few are almost black. R. S. No. 212.
68579. No. 6021. Duitsinshan. Beans yellow, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to nearly black. R. S. No. 207.
68580. No. 6022. Eighth District, Harbin. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with a few which are almost black. R. S. No. 229.
68581. No. 6023. Eighth District, Harbin. Beans yellow, above average size, oblong to almost round; hilums vary from nearly white to dark brown, and a few are almost black. R. S. No. 233.
68582. No. 6024. Anda. Beans yellow, average size, oblong to almost round; hilums vary from white to dark brown, and a few are almost black. R. S. No. 189.
68583. No. 6025. Eighth District, Harbin. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 278.
68584. No. 6026. Anda. Yellow beans, average size, oblong to almost round; hilums vary from almost white to dark brown and almost black. R. S. No. 190.
68585. No. 6027. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 303.
68586. No. 6028. Sanchahe. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 377.
68587. No. 6029. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 348.

68420 to 68825—Continued.

68588. No. 6030. Harbin. Beans yellow, above average size, oblong to almost round; hilums vary from nearly white to dark brown, in a few to nearly black. R. S. No. 234.
68589. No. 6031. Anda. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 197.
68590. No. 6032. Anda. Beans yellow, normal size, oblong to almost round; hilums vary from nearly white to dark brown and sometimes to almost black. R. S. No. 104.
68591. No. 6033. Mangou. Beans yellow, over average size, oblong to almost round; hilums vary from nearly white to dark brown, almost black. R. S. No. 256.
68592. No. 6034. Anda. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown, almost black. R. S. No. 198.
68593. No. 6035. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark pink, occasionally to almost black. R. S. No. 328.
68594. No. 6036. Shuanchenpu. Beans yellow, below average size; hilums vary from almost white to dark brown, sometimes almost black. R. S. No. 93.
68595. No. 6037. Sanchahe. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 381.
68596. No. 6038. Mangou. Beans yellow, average size, oblong to nearly round; hilums range from almost white to dark brown and a few are almost black. R. S. No. 374.
68597. No. 6039. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 49.
68598. No. 6040. Mangou. Beans yellow, below average size, oblong to nearly round; hilums range from almost white to dark brown, occasionally almost black. R. S. No. 375.
68599. No. 6041. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown. R. S. No. 91.
68600. No. 6042. Sanchahe. Beans yellow, average size, oblong to nearly round; hilums range from almost white to dark brown, sometimes almost black. R. S. No. 382.
68601. No. 6043. Yaomyn. Bean yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 278.
68602. No. 6044. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, and a few are almost black. R. S. No. 351.

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68603. No. 6045. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 360.
68604. No. 6046. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, and a few are almost black. R. S. No. 285.
68605. No. 6047. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 363.
68606. No. 6048. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown with a few almost black. R. S. No. 109.
68607. No. 6049. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 267.
68608. No. 6050. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark pink, and a few are almost black. R. S. No. 274.
68609. No. 6051. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally almost black. R. S. No. 320.
68610. No. 6052. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes almost black. R. S. No. 142.
68611. No. 6053. Sanchahe. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 380.
68612. No. 6054. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 194.
68613. No. 6055. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown; a few are quite black. R. S. No. 215.
68614. No. 6056. Harbin. Beans yellow, above average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 238.
68615. No. 6057. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 105.
68616. No. 6058. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 208.
68617. No. 6059. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 306.

68420 to 68825—Continued.

68618. No. 6060. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 151.
68619. No. 6061. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 349.
68620. No. 6062. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 307.
68621. No. 6063. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 116.
68622. No. 6064. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally almost black. R. S. No. 277.
68623. No. 6078. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 324.
68624. No. 6079. Mangou. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 326.
68625. No. 6080. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and occasionally to almost black. R. S. No. 120.
68626. No. 6081. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, and a few are almost black. R. S. No. 276.
68627. No. 6082. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, and occasionally to almost black. R. S. No. 305.
68628. No. 6083. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, and a few are almost black. R. S. No. 318.
68629. No. 6084. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and occasionally to almost black. R. S. No. 169.
68630. No. 6085. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and in some instances to almost black. R. S. No. 346.
68631. No. 6086. Mangou. Beans yellow, average size, oblong to nearly round; hilums range from almost white to dark brown, and occasionally to almost black. R. S. No. 364.
68632. No. 6087. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes almost black. R. S. No. 263.

68420 to 68825—Continued.

68633. No. 6089. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to light brown, occasionally to almost black. R. S. No. 119.
68634. No. 6090. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 367.
68635. No. 6091. Sanchahe. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 376.
68636. No. 6092. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 269.
68637. No. 6093. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 317.
68638. No. 6094. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 222.
68639. No. 6095. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 322.
68640. No. 6096. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and a few are almost black. R. S. No. 336.
68641. No. 6097. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 221.
68642. No. 6100. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 335.
68643. No. 6101. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and occasionally to almost black. R. S. No. 62.
68644. No. 6102. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown or almost black. R. S. No. 323.
68645. No. 6103. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and in some instances are almost black. R. S. No. 362.
68646. No. 6104. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to nearly black. R. S. No. 173.
68647. No. 6105. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly

68420 to 68825—Continued.

- white to dark brown, occasionally to almost black. R. S. No. 344.
68648. No. 6106. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown or nearly black. R. S. No. 350.
68649. No. 6107. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown or nearly black. R. S. No. 165.
68650. No. 6108. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to nearly black. R. S. No. 357.
68651. No. 6109. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 111.
68652. No. 6110. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to nearly black. R. S. No. 107.
68653. No. 6111. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally black. R. S. No. 332.
68654. No. 6112. Shuanchenpu. Beans yellow, average size, hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 76.
68655. No. 6113. Shuanchenpu. Beans yellow, average size, hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 47.
68656. No. 6114. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 319.
68657. No. 6115. Anda. Beans yellow, larger than the average, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 180.
68658. No. 6116. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 114.
68659. No. 6117. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 77.
68660. No. 6118. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 223.
68661. No. 6119. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 12.
68662. No. 6120. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from white to dark brown and occasionally to almost black. R. S. No. 79.

68420 to 68825—Continued.

68663. No. 6121. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 268.
68664. No. 6122. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 134.
68665. No. 6123. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 288.
68666. No. 6124. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 23.
68667. No. 6145. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 131.
68668. No. 6146. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 249.
68669. No. 6147. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 137.
68670. No. 6148. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 174.
68671. No. 6149. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 19.
68672. No. 6149-a. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 243.
68673. No. 6150. Anda. Beans yellow, above average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 181.
68674. No. 6151. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 90.
68675. No. 6152. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 82.
68676. No. 6153. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 283.
68677. No. 6154. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost

68420 to 68825—Continued.

- white to dark brown, occasionally to almost black. R. S. No. 245.
68678. No. 6155. Anda. Beans yellow, fair grade, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 121.
68679. No. 6156. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 298.
68680. No. 6157. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 88.
68681. No. 6158. Anda. Beans yellow, above average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally practically black. R. S. No. 191.
68682. No. 6159. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 136.
68683. No. 6160. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 139.
68684. No. 6161. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown, occasionally to practically black. R. S. No. 74.
68685. No. 6162. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 265.
68686. No. 6163. Shuanchenpu. Beans yellow, a little below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 83.
68687. No. 6164. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 144.
68688. No. 6165. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 201.
68689. No. 6166. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 84.
68690. No. 6167. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 224.
68691. No. 6168. Anda. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to practically black. R. S. No. 184.

68420 to 68825—Continued.

68692. No. 6169. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 284.
68693. No. 6170. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 211.
68694. No. 6171. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 236.
68695. No. 6172. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, a few to almost black. R. S. No. 7.
68696. No. 6173. Anda. Beans yellow, below the average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 113.
68697. No. 6174. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes black. R. S. No. 29.
68698. No. 6175. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 14.
68699. No. 6176. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to practically black. R. S. No. 153.
68700. No. 6177. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 56.
68701. No. 6263. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown, occasionally to almost black. R. S. No. 270.
68702. No. 6264. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, a few being almost black. R. S. No. 185.
68703. No. 6265. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 216.
68704. No. 6266. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 95.
68705. No. 6267. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown or almost black. R. S. No. 172.
68706. No. 6268. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from al-

68420 to 68825—Continued.

- most white to dark brown, occasionally to nearly black. R. S. No. 294.
68707. No. 6269. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white through the browns to black. R. S. No. 202.
68708. No. 6270. Yaomyn. Beans yellow, below the average size, oblong to nearly round; hilums vary from light to dark brown, occasionally to black. R. S. No. 300.
68709. No. 6271. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 200.
68710. No. 6272. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to nearly black. R. S. No. 246.
68711. No. 6273. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 252.
68712. No. 6274. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, a few to practically black. R. S. No. 287.
68713. No. 6275. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from light brown to almost black. R. S. No. 86.
68714. No. 6276. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to quite black. R. S. No. 295.
68715. No. 6277. Shuanchenpu. Beans yellow, below the average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 4.
68716. No. 6278. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 8.
68717. No. 6279. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to black. R. S. No. 133.
68718. No. 6280. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 101.
68719. No. 6281. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 89.
68720. No. 6282. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 126.

68420 to 68825—Continued.

68721. No. 6283. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 11.
68722. No. 6284. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 103.
68723. No. 6285. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to nearly black. R. S. No. 297.
68724. No. 6286. Duitsinshan. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 213.
68725. No. 6287. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 296.
68726. No. 6288. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown; a few are nearly black. R. S. No. 39.
68727. No. 6289. Anda. Beans yellow, above average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 182.
68728. No. 6290. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 257.
68729. No. 6291. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 118.
68730. No. 6292. Anda. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 159.
68731. No. 6293. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 289.
68732. No. 6294. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and a few to black. R. S. No. 204.
68733. No. 6295. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 63.
68734. No. 6296. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 117.
68735. No. 6297. Anda. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 149.

68420 to 68825—Continued.

68736. No. 6298. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 254.
68737. No. 6299. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 156.
68738. No. 6300. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 220.
68739. No. 6301. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 3.
68740. No. 6302. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 135.
68741. No. 6303. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 272.
68742. No. 6337. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 256.
68743. No. 6338. Duitsinshan. Beans yellow, above average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 210.
68744. No. 6339. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 235.
68745. No. 6340. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 98.
68746. No. 6341. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 75.
68747. No. 6342. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 280.
68748. No. 6343. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 299.
68749. No. 6344. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to nearly black. R. S. No. 123.
68750. No. 6345. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 240.

68420 to 68825—Continued.

68751. No. 6346. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to very dark brown, sometimes to almost black. R. S. No. 271.
68752. No. 6400. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 264.
68753. No. 6401. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to almost black. R. S. No. 102.
68754. No. 6402. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 140.
68755. No. 6403. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 214.
68756. No. 6404. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 247.
68757. No. 6405. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 251.
68758. No. 6406. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 36.
68759. No. 6407. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, a few to almost black. R. S. No. 143.
68760. No. 6408. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, almost black. R. S. No. 96.
68761. No. 6409. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 9.
68762. No. 6410. Harbin. Beans yellow, above the average size, oblong to almost round; hilums vary from white to dark brown, occasionally to almost black. R. S. No. 242.
68763. No. 6411. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 129.
68764. No. 6412. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 148.
68765. No. 6413. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost

68420 to 68825—Continued.

- white to dark brown, occasionally to almost black. R. S. No. 65.
68766. No. 6414. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 52.
68767. No. 6415. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 226.
68768. No. 6416. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 58.
68769. No. 6417. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 160.
68770. No. 6418. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 108.
68771. No. 6419. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 60.
68772. No. 6420. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally black. R. S. No. 273.
68773. No. 6421. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 37.
68774. No. 6422. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 239.
68775. No. 6423. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 171.
68776. No. 6424. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 112.
68777. No. 6425. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 188.
68778. No. 6426. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 177.
68779. No. 6427. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 145.
68780. No. 6428. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 115.

68420 to 68825—Continued.

68781. No. 6429. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 241.
68782. No. 6430. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 219.
68783. No. 6431. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown or black. R. S. No. 122.
68784. No. 6432. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 227.
68785. No. 6433. Harbin. Beans yellow, above average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 244.
68786. No. 6434. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 231.
68787. No. 6435. Harbin. Beans yellow, above average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 250.
68788. No. 6436. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 110.
68789. No. 6437. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 130.
68790. No. 6438. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 124.
68791. No. 6439. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 195.
68792. No. 6440. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 230.
68793. No. 6441. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 228.
68794. No. 6442. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 154.
68795. No. 6443. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost

68420 to 68825—Continued.

- white to dark brown, sometimes to almost black. R. S. No. 55.
68796. No. 6444. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 237.
68797. No. 6445. Anda. Beans yellow, above average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 155.
68798. No. 6446. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black.
68799. No. 6447. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 106.
68800. No. 6448. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 339.
68801. No. 6449. Harbin. Beans yellow, a mixed collection, culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68802. No. 6450. Harbin. Beans greenish yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68803. No. 6450-a. Harbin. Beans greenish yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68804. No. 6450-b. Harbin. Beans greenish yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68805. No. 6450-c. Harbin. Beans creamy yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68806. No. 6450-d. Harbin. Beans creamy yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68807. No. 6450-e. Harbin. Beans greenish yellow with brown spots, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68808. No. 6450-f. Harbin. Beans round and black, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.

68420 to 68825—Continued.

68809. No. 6450-g. Harbin. Beans buff brown, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68810. No. 6450-h. Harbin. Beans long, green, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68811. No. 6450-i. Harbin. Beans brown, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68812. No. 6450-j. Harbin. Beans buff, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68813. No. 6450-k. Harbin. Beans dull greenish, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68814. No. 6450-l. Harbin. Beans long, black, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68815. No. 6450-m. Harbin. Beans reddish brown, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68816. No. 6450-n. Harbin. Beans light greenish yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
- 68817 and 68818. *LONICERA CAERULEA* EDULIS (Turcz.) Regel. Caprifoliaceae. Honeysuckle.
68817. No. 5983. Kaolingtzu. June 22, 1926. A bush 10 to 12 feet in height, producing oblong fruits, one-half to three-fourths of an inch in length and about one-fourth of an inch in diameter, which are very dark purple, almost black with plenty of bloom. The fruits are not very good when fresh, but are extensively used in the vicinity of Vladivostok for making jam.
68818. No. 6143. Hingan. July 8, 1926. Found in peaty soil where the climate, though now dry, is at seasons apparently very wet.
68819. *PRUNUS SIBIRICA* L. Amygdalaceae. Siberian apricot.
- No. 6315. From the White River Valley, near Bariam. July 29, 1926. *Shan hsing* (wild mountain apricot). The plants are rarely more than 3 feet in height and are frequently heavily fruited. The fruits vary greatly in size and shape, the largest found being three-fourths of an inch in diameter. They range from pale yellowish green to golden and very often to almost red.

68420 to 68825—Continued.

68820. *PRUNUS PADUS* L. Amygdalaceae. European bird cherry.
- No. 6305. Bariam. July 19, 1926.
68821. *RIBES DIACANTHA* Pall. Grossulariaceae. Red currant.
- No. 6312. Near Bariam. July 21, 1926. The fruit is bright red and of very good quality.
68822. *ROSA* sp. Rosaceae. Rose.
- No. 6326. From the White River Valley, near Bariam. July 24, 1926. Very spiny plants, with the hips pale pink to almost red.
68823. *RUBUS IDAEUS STRIGOSUS* (Michx.) Maxim. Rosaceae. Raspberry.
- No. 6322. From the White River Valley, near Bariam. July 23, 1926. A pale-pink fruited raspberry of good size, which caps easily.
68824. *RUBUS SAXATILIS* L. Rosaceae. Dewberry.
- No. 6323. From the White River Valley, near Bariam. July 24, 1926. A dewberry producing large bright-red fruits of good quality.
68825. *VIOLA TENUICORNIS* W. Becker. Violaceae. Violet.
- No. 5987. Kaolingtzu. June 22, 1926. The flowers of this plant are rather light purple or violet, and are of fairly good size for a wild variety.
- 68826 to 68828. *FRAGARIA* sp. Rosaceae. Strawberry.
- From St. Jean le Blanc, par Orleans, France. Plants presented by Edmond Versin. Received March 4, 1926. Numbered September, 1926.
- Locally developed varieties.
68826. *FRAGARIA* sp. *Géante Rouge*.
68827. *FRAGARIA* sp. *L'Indispensable*.
68828. *FRAGARIA* sp. *Nomblot Bruneau*.
- 68829 to 68835.
- From Sao Paulo, Brazil. Seeds presented by Dr. Henrique Löbbecke, Eng. Agrônomo. Director do Campo de Sementes de Sao Simao, through A. J. Pieters, Bureau of Plant Industry. Received September 27, 1926.
- 68829 to 68831. *ARACHIS* spp. Fabaceae. Peanut.
68829. *ARACHIS HYPOGAEA* L.
- A small-podded form from southern Brazil.
- 68830 and 68831. *ARACHIS NAMBYQUARAE* Hoehne.
- A Brazilian relative of the peanut, which, according to Hoehne (Historia Natural Botanica, Matto Grosso, Brazil, Part XII), is a much-branched, prostrate, or ascending plant. The pod is 2 to 3 inches long, with usually two seeds which are edible and very oily.
- For previous introduction see No. 65296.

68829 to 68835—Continued.

68830. A shorter podded form than No. 68831.

68831. A long-podded form.

68832. *CANAVALIA ENSIFORMIS* (L.) DC.
Fabaceae. Jack bean.

Locally grown seeds.

68833 to 68835. *STIZOLOBIUM* spp. Fabaceae.

Coarse leguminous annual vines. Locally grown seeds.

68833. *STIZOLOBIUM ATERRIMUM* Piper and Tracy. Mauritius bean.

68834. *STIZOLOBIUM DEERINGIANUM* Bort. Florida velvet bean.

68835. *STIZOLOBIUM NIVEUM* (Roxb.) Kuntze. Lyon bean.

68836. *ACACIA RETINODES* Schlecht.
Mimosaceae.

From Paris, France. Seeds obtained from Vilmorin-Andrieux & Co. Received September 15, 1926.

Var. *floribunda*. A tall shrub or small tree, native to Australia, with feathery foliage and dense yellow flower heads.

68837 to 68866.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received September 29, 1926.

68837 to 68840. *ALBIZZIA* spp. Mimosaceae.

68837 and 68838. *ALBIZZIA FALCATA* (L.) Backer (*A. moluccana* Miquel).

A rapidly growing tree with large feathery leaves and small globular flower heads. Because of its thin foliage it is grown in Ceylon as a shade for field crops.

For previous introduction see No. 67965.

68837. No. 1. 68838. No. 2.

68839. *ALBIZZIA ROTUNDATA* Blume.

An East Indian leguminous tree with rounded leaflets, of possible use as a shade for crop plants.

68840. *ALBIZZIA SAPONARIA* (Lour.) Blume.

A small tree, 65 feet or less high, with gray bark and alternate double compound leaves. The bark contains saponin and is used by the natives of the Philippines as soap for washing their hair. Native to the Philippines and the East Indies.

68841. *BARYXYLUM INERME* (Roxb.) Pierre (*Peltophorum ferrugineum* Benth.). Caesalpinaceae.

A large, quick-growing, symmetrical tree, with a spreading top and graceful feathery foliage, indigenous to the dry regions of Ceylon and Malaya, where the annual rainfall varies from 50 to 70 inches. The young leaves and shoots are covered with a brown velvety tomentum. The tree flowers twice a year at irregular seasons, some specimens being in blossom while others near by are in ripe fruit. The flowers are rusty yellow, sweet scented, and borne in large erect

68837 to 68866—Continued.

panicles. The tree is a magnificent sight when in full bloom. It is especially suited to dry districts, but also thrives to perfection in the moist regions up to 1,800 feet.

For previous introduction see No. 51810.

68842 to 68844. *BAUHINIA* spp. Caesalpinaceae.

68842. *BAUHINIA MONANDRA* Kuntz. Butterfly bauhinia.

An ornamental pink-flowered tropical African bush or small tree.

For previous introduction see No. 50734.

68843. *BAUHINIA TOMENTOSA* L. St. Thomas tree.

A handsome leguminous shrub, native to tropical Asia and Africa, with clusters of large showy yellow flowers.

For previous introduction see No. 38651.

68844. *BAUHINIA VIOLACEA* Hort.

A leguminous tropical plant, native to the East Indies.

68845. *CALOPOGONIUM MUCUNOIDES* Desv. Fabaceae.

A tropical American plant which is said to be popular as a cover plant in Sumatra, according to J. N. Milsum and E. A. Curtler (*Malayan Agricultural Journal*, vol. 13, No. 8, August, 1925, pp. 271-272). These authorities state that a fair cover is obtained after three months from sowing, when flowering commences. The plant is a vigorous creeping herb which forms a mat of foliage $1\frac{1}{2}$ feet or so in thickness over the soil. The stems, 3 to 10 feet long, form roots at each node. The pale blue flowers are in racemes 1 to 4 inches long.

For previous introduction see No. 66085.

68846 to 68848. *CASSIA* spp. Caesalpinaceae.

68846. *CASSIA MARGINATA* Roxb.

A small, graceful tropical tree with rose-colored flowers and drooping branches. Native to the East Indies.

68847. *CASSIA SURATTENSIS* Burm. f. (*C. glauca* Lam.).

A tropical leguminous shrub or small tree with pale-green compound leaves and clusters of pale-yellow flowers. Native to the East Indies.

For previous introduction see No. 33562.

68848. *CASSIA* sp.

A tropical leguminous plant native to the East Indies.

68849 to 68852. *CROTALARIA* spp. Fabaceae.

68849. *CROTALARIA GRANTIANA* Harv.

A small slender herbaceous plant with an erect, branching, leafy stem about a foot high and small yellow flowers. Native to Natal.

For previous introduction see No. 51833.

68837 to 68866—Continued.

68850. *CROTALARIA USARAMOENSIS*
Baker f.

This East African crotalaria has been tested in Java as a green manure, according to Dr. P. J. S. Cramer, Director of the Department of Agriculture, Buitenzorg. Doctor Cramer states that it has proved very successful as a green manure when grown in alternation with corn, producing large quantities of vegetation rich in nitrogen. In the cinchona plantations it is very satisfactory, as it endures partial shade and forms a dense, low growth, which keeps the edges of the terraces together.

For previous introduction see No. 64064.

68851. *CROTALARIA VALETONII* Backer.

An East Indian plant described by C. A. Backer (Bulletin du Jardin Botanique, Buitenzorg, vol. 2, p. 324) as an erect, densely branched herb, 1 to 4 feet high, with simple, hairy leaves and yellow flowers in terminal, 5-flowered to 12-flowered racemes.

For previous introduction see No. 65299.

68852. *CROTALARIA VERRUCOSA* L.

A much-branched leguminous herb, about 2 feet high, found throughout the Tropics of both hemispheres. The white and blue flowers are in many-flowered, compact racemes.

For previous introduction see No. 65300.

68853. *DETARIUM SENEGALENSE* Gmel.
Caesalpiniaceae.

A large spreading evergreen South African tree, up to 60 feet high, which bears large numbers of yellow oval smooth-skinned fruits about 3 inches long. The jellylike pulp is sweet and of pleasant flavor. The tree grows in regions practically free from frost.

68854. *DONAX CANNAEFORMIS* (Forst.)
Rolfé. Marantaceae.

A shrubby moisture-loving perennial, up to 3 meters high, native to tropical America. The large leaves resemble those of a canna, and the white flowers are in lax spikes.

68855. *ERYTHRINA VARIEGATA ORIENTALIS*
(L.) Merr. Fabaceae.

A moderate-sized spineless leguminous East Indian tree of very rapid growth, with trifoliate leaves and red flowers. In Ceylon, where it is called the "dadap," the tree is used to shade crop plants and also the foliage is lopped for use as green manure. It is being tested as a cover plant at the experiment station, Peradeniya.

For previous introduction see No. 67967.

68856 to 68859. *FICUS* spp. Moraceae.

68856. *FICUS AMPELOS* Burm. f.

A tropical Indian tree with rough ovate-oblong leaves and small grape-like fruits.

68857. *FICUS KORTHALSI* Miquel.

A wild fig from southern Borneo which resembles *Ficus elastica* in foliage and habit. The leaves are rigid

68837 to 68866—Continued.

and leathery and up to 8 inches long, and the ellipsoid fruits are nearly an inch in length.

68858. *FICUS HIRTA* Vahl.

A shrub or small tree with leaves up to a foot long, from the tropical Himalayas.

68859. *FICUS RETUSA* L.

A large tropical tree with aerial roots, leathery leaves 4 inches long, and red or yellow fruits a third of an inch in diameter. Native to the East Indies.

68860. *MEIBOMIA GYROIDES* (DC.) Kuntze
(*Desmodium gyroides* DC.). Fabaceae.

A shrubby leguminous plant, 8 to 10 feet high, from the warmer parts of the central and eastern Himalayas. It has hairy leaves and terminal clusters of red flowers.

For previous introduction see No. 64177.

68861. *MEIBOMIA TRIQUETRA* (L.) Kuntze
(*Desmodium triquetrum* DC.). Fabaceae.

A handsome shrub with triangular branches, stiff leathery leaflets, and long axillary and terminal racemes of red flowers. It is found in most places in eastern and southern India and also in China and the Philippines.

For previous introduction see No. 47727.

68862. *PITHECOLOBIUM JUNGHUHNIANUM*
Benth. Mimosaceae.

A tropical leguminous tree, native to the mountainous regions of Java, with rather small bipinnate leaves and numerous globular umbels of small flowers.

68863. *TALINUM PATENS* (L.) Willd.
Portulacaceae.

An erect perennial, 1 to 2 feet high, native to tropical America, with fleshy leaves and carmine flowers. The leaves are boiled and eaten like spinach.

68864. *TALINUM TRIANGULARE* (Jacq.)
Willd. Portulacaceae.

An erect branching herbaceous plant, about 3 feet high, native to the West Indies and recently introduced from Java into the Philippine Islands. The flowers are pink and produced in great profusion. In the Philippines the fleshy tender leaves are boiled like spinach and served with meat, for which purpose they are excellent.

For previous introduction see No. 59292.

68865. *TERMINALIA ARBOREA* (Teyssm.)
Koord. and Val. Combretaceae.

An East Indian tree about 100 feet high, with alternate entire leaves. The astringent fruits are used medicinally.

For previous introduction see No. 49564.

68866. *TERMINALIA BELLERICA* (Gaertn.)
Roxb. Combretaceae.

The small round fruits of this handsome tropical Indian tree have been exported from India for tanning purposes under the name of myrobalans. The yellowish gray wood is used for general construction. The tree also has merit as a

68837 to 68866—Continued.

shade tree for avenues, with its huge buttressed trunk and long horizontal branches.

For previous introduction see No. 61505.

68867 to 68907.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received September, 1926.

68867. *APIUM GRAVEOLENS* L. Apiaceae.
Celery.

No. 550. *Fuk chow pak kan tsoi*. Seeds obtained from a seed store, Sanmiu, Honam, and said to have come from Fukchow, Fukien Province. This variety is planted here in August.

68868. *ARDISIA* sp. Myrsinaceae.

No. 521. Lungtau Mountain, northern Kwangtung. *Mo chung yeuk*. A low rosette plant having bright-green, sometimes reddish, leaves densely covered with long soft hairs, and clusters of bright-red berries which follow the small but pretty white flowers. This plant is found in moist shady situations and is good for rock gardens.

68869. *BETA VULGARIS* L. Chenopodiaceae.

No. 528. Canton. *Kwan taat tsoi*. A Chinese vegetable similar to Swiss chard. It is grown here during the winter months, and the large, white petioles, together with the leaves, are eaten.

68870 to 68883. *BRASSICA* spp. Brassicaceae.

68870. *BRASSICA* sp.

No. 530. Canton. *Paak fa kai laan*. A white-flowered native Chinese vegetable with a habit of growth much like wild mustard, but with much thicker, more succulent, glaucous leaves. It is grown during the winter months.

68871. *BRASSICA* sp.

No. 545. From a seed store in Sanmiu, Honam, originally from Lausek, near Fatshaan, Kwangtung. *Ma i paak tsoi* (horse ear). A variety planted in July; the leaves are edible in about 40 days, and the seeds ripen in about 120 days. The leaves and their broad white tender fleshy petioles make a delicious vegetable; any surplus is dried for later use.

68872. *BRASSICA* sp.

No. 546. *Kong moon ai keuk paak tsoi*. A variety with shorter, broader leaf petioles, originally from Kongmoon, in the Sunui district, Kwangtung. It is planted from July to November; the leaves are edible in about 60 days, and the seeds ripen in about 120 days. The leaves and petioles are sometimes dried for off-season consumption.

68873. *BRASSICA* sp.

No. 547. From a seed store in Sanmiu, Honam, originally from Potting, Chihli Province. *Ai keuk wong nga paak, wong paau sam*. A variety which is planted in July, forming a rather loose, globular head in about 85 days. The seeds ripen in about 150 days. It is used as a winter

68867 to 68907—Continued.

vegetable and is very tender, delicious, and of a much milder, sweeter flavor than the common cabbage.

68874. *BRASSICA* sp.

From a seed store in Sanmiu, Honam, originally from Tientsin. *Ko keuk taai tsing nga paak*. A variety planted in July; the heads form in about 80 days, and the seeds ripen in about 120 days. The heads formed by this variety are longer than those of *wong paau sam*, No. 547 [No. 68873], and loose, requiring to be tied up in order to attain their highest perfection.

68875. *BRASSICA* sp.

No. 549. From a seed store in Sanmiu, Honam, and originally from Potting, Chihli Province. *Ai keuk paau sam tsing paau nga paak*. This variety, planted in July, forms subglobular heads in about 80 days. It is distinguished from No. 547, *wong paau sam* [No. 68873], by its greener color.

68876. *BRASSICA* sp.

No. 551. From a seed store in Sanmiu, Honam, originally from Chiu-chow, Kwangtung. *Chiu chow paau sam taai kai tsoi*. A variety planted in August here, which is commonly used to make a kind of salt kraut. The leaves are edible in about 80 days, and the seeds are said to ripen in about 120 days.

68877. *BRASSICA* sp.

No. 552. From a seed store in Sanmiu, Honam, originally from Chiu-chow, Kwangtung. *Taai haap chiu chow kaai tsoi*. A variety planted in August; the leaves are edible in about 80 days, and the seeds are said to ripen in about 120 days. It is largely used in making a salt kraut.

68878. *BRASSICA* sp.

No. 553. From a seed store in Sanmiu, Honam, originally from Fatshaan, Kwangtung. *Naam fung kai tsoi*. A variety planted throughout the year. The leaves are edible in about 40 days.

68879. *BRASSICA* sp.

No. 554. From a seed store in Sanmiu, Honam, originally from Datshaan, Kwangtung. *Paak fa kai faam tsoi*. A white-flowered variety planted from July to September. The leaves are edible in about 60 days.

68880. *BRASSICA* sp.

No. 555. A locally grown variety obtained at a seed store in Sanmiu, Honam. *Tsing kwat tsoi sam*. It is planted in July, and the stems and leaves are edible in about 40 days.

68881. *BRASSICA* sp.

No. 556. Said to have come from Shanghai. *Sheung hoi paau sam ye tsoi*. This variety, which is cultivated locally, is planted in July, and the heads are said to form in about three months.

68882. *BRASSICA* sp.

No. 557. From a seed store in Sanmiu, Honam. *Kong naam taai tau tsoi*. A variety planted here in August; the roots and the leaves are

68867 to 68907—Continued.

edible in about 70 days, and the seeds are said to ripen in about 120 days. The whole plant is often preserved with salt and dried.

68883. *BRASSICA* sp.

No. 558. From a seed store in Sammiu, Honam. *Kong naam sai miu ching tsoi*. A variety planted in August, with leaves and roots edible in about 70 days. The roots are largely used after having been pickled in salt, and often the whole plant is preserved in the same way.

68884. *CHLORANTHUS* sp. Chloranthaceae.

No. 522. *Chuk chit cha*. A wild shrub, promising as an ornamental, found in thickets in northern Kwangtung, at an altitude of about 300 meters. It has a pleasing, clean, green foliage and stems and produces fruits of a striking red color.

68885 and 68886. *CHRYSANTHEMUM CORONARIUM* L. Asteraceae. Crown daisy.

For previous introduction see No. 64352.

68885. No. 529. *Tong ho tsoi*. The pretty yellow flowers of this plant make it worthy of a place in the flower gardens, although the odor of the plant itself is not altogether pleasing to some. The young plants are cultivated by the Chinese as a vegetable, during the winter months, and are used only when young. They are a favorite ingredient in the native soups.

68886. No. 559. *Tai ip tong ho tsoi*. A large-leaved variety said to have come from Chiuchow, Kwangtung. It is planted here in September and October, and the whole plant is eaten when quite young. The common use is as an ingredient in soups.

68887. *CRAWFURDIA* sp. Gentianeae.

No. 520. A slender twining vine with persistent, ornamental purplish red fruits, collected in the wild near Yeunguk, Lungtau Mountain, northern Kwangtung.

68888 to 68890. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

68888. No. 531. *Heung kwa*. A native cucurbitaceous fruit very similar in fragrance and flavor to our muskmelon. The rich-yellow, smooth-skinned fruits are oblong and rather small, rarely exceeding 12 or 15 centimeters in length. This variety would be a very good addition to our list of kitchen garden melons, as it could be grown on fences or light trellis with very little trouble.

68889. No. 532. *Mat tong ching*. A melon somewhat resembling the honeydew melon. It is cylindrical in shape, rarely exceeding 8 inches in length. The skin is covered with a dense, short pubescence while the melons are young, but later it becomes very smooth and turns pale green. The flesh has an excellent flavor and texture, is light colored, and has a crispness which is akin to mealiness.

68890. No. 562. *Cheung shan paak kwa*. A locally grown variety obtained at a seed store in Sammiu,

68867 to 68907—Continued.

Honam. It is planted from May to July and is said to produce edible fruits in 80 days. It is a long, fleshy, white-skinned cucumberlike vegetable, usually eaten stewed with meat or pickled while the fruits are young.

68891. *DOLICHANDRONE CAUDA-FELINA* (Hance) Benth. and Hook. Bignoniaceae.

No. 519. *Maau mei shue*. A tree of fairly rapid growth on poor soil, which has a pleasing foliage, large yellow purple-throated flowers, and woolly cat-tail-like fruits (from which it takes its native name). Its one bad feature as an ornamental is the fact that the pods are persistent after the seeds have been shed, giving the tree a somewhat untidy appearance. The wood is of no special value, but the seeds are credited by the Chinese as having therapeutic value in the treatment of venereal diseases.

68892 and 68893. *LACTUCA SATIVA* L. Cichoriaceae. Lettuce.

68892. No. 539. *Poh lei shaang tsoi*. Obtained at a seed store in Sammiu, Honam, and said to have originally come from Annam. This is said to be a very delicate and delicious variety. It is planted any time from July to November, sandy clay soil being preferred; the leaves are edible in about 50 days, and the seeds ripen in about 100 days.

68893. No. 540. *Yau maak shaang tsoi*. Obtained at a seed store in Sammiu, Honam, originally from Chiuchow, Kwangtung. A variety planted in July; the leaves are edible in about two months, and the seeds are said to ripen in about 120 days. A central stem rapidly develops, and the leaves, which are quite long, slender, and rather coarse, are removed progressively from the lower portion of the stem as fast as they reach their full size. This variety is never eaten raw.

68894 to 68896. *LAGERSTROEMIA INDICA* L. Lythraceae. Grape myrtle.

68894. No. 523. *Tsz shik tsz mei fa*. An ornamental purple-flowered shrub cultivated on the campus of the Canton Christian College and probably introduced from India.

68895. No. 524. *Taam hung tsz mei fa*. An ornamental pink-flowered shrub, probably introduced originally from India, which has been cultivated on the campus of the Canton Christian College.

68896. No. 525. *Hung tsz mei fa*. An ornamental red-flowered shrub, probably introduced from India, which has been cultivated on the campus of the Canton Christian College.

68897. *PISUM SATIVUM* L. Fabaceae. Pea.

No. 561. *Hoh laan tau*. Obtained at a seed store in Sammiu, Honam, and said to have come from Chiuchow, Kwangtung. A variety usually planted in August. The tender young tips of the vines are used as a vegetable here, as well as the seeds and pods when quite young, and are said to be very sweet and delicious. The Chinese name of this dish is *lung so tsoi* (dragon's-beard vegetable).

68867 to 68907—Continued.

68893 to 68902. *RAPHANUS SATIVUS* L.
Brassicaceae. Radish.

68898. No. 534. *Loh paak, Loap chuk tan loh paak* (candlestick). Obtained at a seed store in Sanmiu, Honam, originally from Taaifoo, near Fats-haan, Kwangtung. A variety planted in June. The roots are edible in about 50 days and are eaten raw, with raw fish, as a hot-weather dish. The seeds ripen in about 150 days and are said to be very short-lived; they are never kept until the second year.

68899. No. 535. *Cheung shan shui paak loh paak*. A variety originally from Chiuchow, Kwangtung, which is planted in June, sandy clay soil being preferred. The roots are edible in about 50 days, and the seeds ripen in about four months. A large portion of the crop is salted and dried for off-season use.

68900. No. 536. *Chi fa tai loh paak*. Obtained at a seed store in Sanmiu, Honam, originally from Chiuchow, Kwangtung. A late-flowering variety planted in September, sandy clay soil being preferred. The roots are edible in about 60 days, and the seeds ripen in about 120 days. The crop is largely salted and dried to make a product known locally as *haam loh paak kon*.

68901. No. 537. *Tung kwa paak loh paak*. Obtained at a seed store in Sanmiu, Honam, originally from Chiuchow, Kwangtung. A variety planted in September, sandy clay soil being preferred; the roots are edible in about 60 days, and the seeds ripen in about 120 days. The surplus crop is salted and dried for future consumption.

68902. No. 538. *Pa chi loh paak* (harrow tooth). A long slender variety obtained at a seed store in Sanmiu, Honam, originally from Taaichaak, Sanui district. It is planted in July, and the roots are edible in about 40 days. The seeds ripen in about 120 days. Sandy clay soil is preferred for this variety.

68903. *RUBUS PARVIFOLIUS* L. Rosaceae.
Raspberry.

No. 527. *She paau lak, nga ying lak*. A low, rambling raspberry which occurs commonly on the uncultivated clay hills about Canton. Its inconspicuous lavender flowers are followed by small, yellowish red juicy fruits of good flavor, made up of few drupelets and sometimes nearly inclosed in the large calyx. The plants seem sturdy and free from disease and may prove of interest to breeders of small fruits.

For previous introduction see No. 52948.

68904. *RUBUS ROSAEFOLIUS* J. E. Smith. Rosaceae. Raspberry.

No. 526. *She paau lak*. Seeds of plants growing on the Canton Christian College campus, which were brought from the vicinity of Kwongning during the spring of 1925. A low-growing raspberry which spreads by means of rhizomes and seems to thrive and bear best in moist sandy soil. The bright-red spherical fruits of fair flavor but rather seedy are made up of numerous small drupelets.

68867 to 68907—Continued.

The plants seem especially free from disease, and may be of interest to breeders of small fruit.

For previous introduction see No. 65267.

68905 and 68906. *SPINACIA OLERACEA* L.
Chenopodiaceae. Spinach.

68905. No. 543. *Chi fa haak in poh tsoi*. Originally from Fatshaan, Kwangtung. A late-flowering variety with dark-green leaves; it is planted in August. The leaves and stems are edible in about 60 days, and the seeds ripen in about 120 days.

68906. No. 544. *Tso fa poh tsoi*. An early flowering variety originally from Chiuchow, Kwangtung, obtained in Sanmiu, Honam. It is planted during August and September; the leaves and stems are edible in about 50 days, and the seeds ripen in about 120 days.

68907. *VIGNA SESQUIPEDALIS* (L.) Fr. wirth. Fabaceae. Yard Long bean.

No. 560. *Kam shaan tau kok*. A variety of the Chinese long bean, planted in June and July.

68908 and 68909. *GOSSYPIMUM NEGLECTUM* Todaro. Malvaceae. Cotton.

From Rangoon, Burma. Seeds presented through Richard R. Willey, United States vice consul in charge. Received September 18, 1926. Notes by Mr. Willey.

68908. Variety *roseum arvensis*. A white-flowered strain of *wagale* cotton which gives a high ginning percentage and yield. It grows on the upland gravelly soils of the dry zone area of Burma.

68909. Variety *Burmanica*. An improved strain of ordinary cotton, with white flowers, producing from 600 to 700 pounds of seed cotton per acre and having a ginning percentage of 36 to 38. It is an important staple crop of the dry districts of Burma and is cultivated on a variety of soils, the typical soil being a loamy alluvial one.

68910 and 68911. *HORDEUM VULGARE COELESTE* L. Poaceae.

Six-rowed barley.

From Mongolia. Seeds obtained by Dr. Carl I. Krebs, Danish agricultural expedition to Mongolia. Received September 30, 1926.

Mongolian strains of barley.

68910. No. 1. 68911. No. 2.

68912. *TELOPEA SPECIOSISSIMA* (J. E. Smith) R. Br. Proteaceae.

Waratah.

From Sydney, New South Wales, Australia. Seeds presented by Dr. G. P. Darnell-Smith, Government botanist. Received September 30, 1926.

A very striking, evergreen Australian shrub, about 8 feet high, with irregular toothed, dark-green leaves 6 inches long and deep crimson, tubular flowers about an inch long, borne in a dense, globular head surrounded by blood-red bracts 2 or 3 inches in length. The waratah, as this

shrub is known in its native land, has come to be recognized as the State flower of New South Wales.

For previous introduction see No. 58513.

68913 to 68948. ORYZA SATIVA L. Poaceae. Rice.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received September, 1926.

Numbers 68913 to 68944 are from a collection of starchy, second-crop varieties which have been grown at the Canton Christian College for the last few years.

68913. No. 483. *Tsinguen. Tsing uen yeung chim kuk.* Growing season 90 days; yield about 1,770 pounds per acre.

68914. No. 484. A glutinous variety from Kukkong district. *Kuk kong fa noh kuk.* Growing season 90 days; yield about 2,400 pounds per acre.

68915. No. 485. *King chow hung mai chim kuk.* A red-kerneled variety from Kingchow, island of Hainan. Growing season 111 days; yield about 2,100 pounds per acre.

68916. No. 486. *Paak hok kei kuk.* Growing season 105 days; yield about 2,500 pounds per acre.

68917. No. 487. *Hop po paak fa chim kuk.* Originally from Hoppo district. Growing season 106 days; yield about 2,000 pounds per acre.

68918. No. 488. *Oon chung kuk.* A late variety. Growing season 97 days; yield about 2,075 pounds per acre.

68919. No. 489. *Tsang sheng lau fa chim kuk.* Originally from the Tsangsheng district. Growing season 90 days; yield about 1,970 pounds per acre.

68920. No. 490. *Taai koon wong shong kuk.* Growing season 100 days; yield about 2,900 pounds per acre.

68921. No. 491. *Tung koon yau chim kuk.* Growing season 101 days; yield about 2,300 pounds per acre.

68922. No. 492. *Dau fa chim.* Growing season 102 days; average yield about 2,900 pounds per acre.

68923. No. 493. *Chau hei kuk.* Growing season 104 days; yield about 1,900 pounds per acre.

68924. No. 494. *Kuk kaai kuk.* Growing season 102 days; yield about 2,100 pounds per acre.

68925. No. 495. *Hop po wong chim kuk.* Originally from the Hoppo district. Growing season 97 days; yield about 1,900 pounds per acre.

68926. No. 496. *Ma kui yau chim kuk.* Growing season 88 days; yield about 1,480 pounds per acre.

68927. No. 497. *Lin uen yau chim kuk.* Originally from Linuen district. Growing season 91 days; yield about 1,900 pounds per acre.

68928. No. 498. *Tsai mei kuk.* Growing season 96 days; yield about 1,230 pounds per acre.

68913 to 68948—Continued.

68929. No. 499. *Ngau mei tao kuk.* Growing season 104 days; yield about 2,530 pounds per acre.

68930. No. 500. *Wan fau taai paak kuk.* Originally from the Wanfa district. Growing season 96 days; yield about 2,350 pounds per acre.

68931. No. 501. *Cheung po sz miu kuk.* Originally from the Wanfa district. Growing season 94 days; yield about 2,700 pounds per acre.

68932. No. 502. *Tit chui kuk.* Growing season 100 days; yield about 2,275 pounds per acre.

68933. No. 503. *Heung chim kuk.* Growing season 105 days; yield about 1,570 pounds per acre.

68934. No. 504. *Wat naam chim kuk.* Originally from Watnaam district. Growing season 97 days; yield about 2,085 pounds per acre.

68935. No. 505. *Yeung chung saam pei kuk.* Originally from the Yeungchun district. Growing season 106 days; yield about 2,380 pounds per acre.

68936. No. 506. *Kik sz kai kuk.* Growing season 96 days; yield about 2,025 pounds per acre.

68937. No. 507. *Oo hok kuk.* Growing season 98 days; yield about 2,200 pounds per acre.

68938. No. 508. *Noh chaap kuk.* A glutinous variety with a growing season of 105 days; yield about 2,500 pounds per acre.

68939. No. 509. *Aai keuk tai paak kok kuk.* Growing season 104 days; yield about 2,590 pounds per acre.

68940. No. 510. *Yeung chun chuk chim kuk.* Originally from the Yeungchun district. Growing season 100 days; yield about 2,900 pounds per acre.

68941. No. 511. *Tung koon yau chim kuk.* Originally from the Tungmoon district. Growing season 97 days; yield about 1,600 pounds per acre.

68942. No. 512. *Ja wa kuk.* No. 1. An awned variety originally from Java.

68943. No. 513. *Ja wa kuk.* No. 2. An awned variety originally from Java.

68944. No. 514. *Taai noh kuk.* A glutinous variety originally from Kamngauhaang. Growing season 105 days; yield about 1,180 pounds per acre.

68945. No. 515. *Paak chim kuk.* From Kamngauhaang.

68946. No. 516. *Hung mai sha chim kuk.* A red-kerneled variety from Taaifohte.

68947. No. 517. *Chim tsai noh kuk, fa hok noh kuk.* A glutinous variety from Taaifohte.

68948. No. 518. *Paak chim luk tau tsai kuk.* From Taaifohte.

68949 to 68951. PRUNUS spp. Amygdalaceae.

From Jamaica Plain, Mass. Scions presented by E. H. Wilson, Arnold Arboretum. Received July 19, 1926.

68949 to 68951—Continued.**68949. PRUNUS MEYERI** Rehder.

In 1906 Frank N. Meyer, while carrying on agricultural explorations in northern Chosen, collected seeds of a small wild cherry, which, according to his note (see No. 20084) was of handsome appearance and suited for growing in parks. At the Arnold Arboretum, a tree grown from one of these seeds was described as new by Alfred Rehder (Journal of the Arnold Arboretum, vol. 2, No. 2, p. 123) and named for Mr. Meyer. Doctor Rehder states that this appears to be a hybrid between *Prunus maackii* and *P. mamiowiczii*, since it has characters intermediate between those of the above species. The tree is about 20 feet high, of vigorous growth, with a dense pyramidal habit, and pleasing bright-green foliage. The small white flowers are in dense racemes.

68950. PRUNUS SERRULATA PUBESCENS Wilson.
Kasumi cherry.

As described by Wilson (Cherries of Japan, p. 31), this variety develops into a tree up to 55 feet in height, with a trunk sometimes 7 feet in circumference, and leaves with pale-green lower surfaces. The white or pink single flowers are usually about four-fifths of an inch in diameter. This variety has the widest distribution of any of the Japanese cherries and flowers about two weeks later than *Prunus serrulata spontanea*, from which variety it differs in the slight hairiness of the leaves.

For previous introduction see No. 55715.

68951. PRUNUS SERRULATA SACHALINENSIS (Schmidt) Makino (*P. sargentii* Rehder).
Sargent's cherry.

This variety is very similar to *Prunus serrulata pubescens*, according to E. H. Wilson (Cherries of Japan, p. 35), except that the leaves are not hairy, and the flowers, which are pink or rose colored, rarely white, are usually a little more than an inch in diameter. It is probably the handsomest of all the wild cherries of

68949 to 68951—Continued.

eastern Asia, and is the parent of several of the finest double-flowered Japanese cherries.

For previous introduction see No. 55716.

68952. CASTANOPSIS sp. Fagaceae.

Evergreen chinquapin.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 25, 1926. Numbered July, 1926.

No. 268. Kamngauhaang. November 26, 1925. *Chui tsai, yui tsai*. A tree 6 to 8 meters high, with small entire lanceolate acuminate shiny leaves and small oblong-globular nuts which are solitary in the burs. The tree is very healthy and free from pests, though the nuts are occasionally wormy.

68953. JUGLANS sp. Juglandaceae.

Walnut.

From Santiago, Chile. Plants collected by Wilson Popenoe, United Fruit Co., Tela, Honduras. Received November 4, 1921. Numbered September, 1926.

No. 650. A South American walnut which closely resembles *Juglans nigra* in general appearance. It inhabits the highlands of Ecuador at altitudes of 6,000 to 10,000 feet. The edible nuts, 1½ inches in diameter, are thick shelled, and the wood is fine grained and handsome.

68954 and 68955. SATYRIUM CARNEUM (Ait.) R. Br. Orchidaceae.

From Cape Town, South Africa. Tubers purchased from W. S. Duke & Co. Received March 11, 1926. Numbered July, 1926.

A terrestrial herbaceous South African orchid with stout stems, a pair of fleshy radical oval-rounded leaves, and large pink flowers borne on scapes up to 2 feet in height.

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68955. B.

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This inventory is a contribution from

<i>Bureau of Plant Industry</i> -----	WILLIAM A. TAYLOR, <i>Chief.</i>
<i>Office of Foreign Plant Introduction</i> -----	KNOWLES A. RYERSON, <i>Senior</i> <i>Horticulturist, in Charge.</i>

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INVENTORY No. 89



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PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, OCTOBER 1 TO DECEMBER 31, 1926 (NOS. 68956 TO 70867)

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INTRODUCTORY STATEMENT

During the period covered by this inventory P. H. Dorsett concluded his explorations in Manchuria. The great number of introductions of soy beans, mung beans, barley, and wheat recorded here is due to the cooperation afforded Mr. Dorsett toward the close of his work in that country. Through the courtesy of D. McLorn, Postal Commissioner at Harbin, about 500 rural postmasters, several of them in sections of the country never yet visited by white men, were instructed to send in small seed samples of wheat, barley, soy beans, and mung beans, and the majority of the postmasters were able to supply seed. The nature of the country where these grew makes them of unusual promise for the northern and northwestern United States.

While continuing his work in southeastern China, F. A. McClure collected, among other things, tubers of 6 cultivated varieties of yams from Kwangtung (*Dioscorea* spp., Nos. 69072 to 69077), 55 local strains of rice, also from Kwangtung (*Oryza sativa*, Nos. 69172 to 69226), and scions of 20 locally grown varieties of kaki from Anhwei (*Diospyros kaki*, Nos. 70256 to 70275).

During his visit to the Stockholm Botanic Gardens, at Stockholm, Sweden, David Fairchild obtained seeds of three species of rhubarb (*Rheum* spp., Nos. 69105 to 69107). These are not only of possible use to rhubarb growers for breeding experiments but are also of ornamental value and are not now known in this country.

Five species of Cassia are recorded in this inventory (Nos. 69147 to 69151). The showy flowers of this genus make them valuable as ornamentals, and they should be a very interesting group for local collections in sections of the United States where they are adapted.

Agronomists engaged in wheat investigations will be interested in 51 locally developed varieties (*Triticum* spp., Nos. 70689 to 70739) presented by the inspector general of agriculture of Iraq. Since Iraq is essentially a subtropical country, these varieties will be of most promise in the southern portions of the wheat-growing areas of the United States.

Mimosa invisa (No. 69122) deserves mention from the fact that it has been used successfully in the East Indies as a cover and green-manure plant. Its spiny nature is objectionable from this standpoint and may make it less desirable than other good legumes that we are now using. However, it is a worthy plant for experimentation in this connection and may also have value as an ornamental.

In propagating the papaw, *Asimina triloba* (No. 69166), attention should be called to this outstanding native fruit which has so much to recommend it in its wild state and which has received so little attention at the hands of plant breeders and horticulturists. It should be given special consideration in connection with the custard apple, *Annona cherimola*, and other species. Selection and hybridization of these fruits should be attempted under glass or in southern areas having climatic conditions favorable to such plants.

The Cohune palm, *Attalea cohune* (No. 69063), although already established in a few places in Florida, is deserving of much greater attention. It is a magnificent palm and one that should be in every good collection.

The copihue, *Lapageria rosea* (No. 69168), the national flower of Chile, is a woody vine producing extremely showy flowers. While it has been introduced into the United States a number of times, its exacting requirements have prevented its ever being commonly cultivated. It should be given special trial in the immediate coastal area of the Pacific coast wherever climatic conditions approach those of its native habitat in central and southern Chile.

On account of the difficulty with which *Davidia involucreata* (No. 69872) is propagated, it has not become common in this or other countries. It is possible, however, to grow it from cuttings, also from seeds. When in bloom the large showy white floral bracts make the tree very conspicuous. It is deserving of special consideration.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

KNOWLES A. RYERSON,
Senior Horticulturist, in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., July 20, 1928.

INVENTORY¹

68956 and 68957. LITCHI spp. Sapindaceae.

From Manila, Philippine Islands. Seedlings presented by the Director of Forestry, Manila, through W. T. Swingle, Bureau of Plant Industry. Received December 4, 1926.

68956. LITCHI ARAUCARIA Hort.

[Place of publication not found.]

68957. LITCHI PHILIPPINENSIS Radlk.

A Philippine relative of the lychee (*Litchi chinensis*) which, as described by Webster (Food Plants of the Philippines, p. 99) is a tree about 50 feet high, with dark-green pinnate leaves, similar to those of the lychee, and roundish oblong fruits, about 3 centimeters long, borne in loose terminal clusters. The tough leathery "shell" of the fruit, which is covered with short spiny projections, incloses a scant edible pulp, in which is embedded a relatively large seed. This seed is roasted and eaten. The tree may have value as a stock for the lychee.

68958 to 68960. GOSSYPIUM HIRSUTUM L. Malvaceae. Cotton.

From Barberton, Transvaal, South Africa. Seeds presented by F. R. Parnell, cotton breeder Empire Cotton Growing Corporation. Received November 30, 1926.

South African selections of Cambodian cotton said to be resistant to infestations of jassids (cotton fleas).

For previous introduction see No. 66179.

68958. Cambodia No. 37.

68959. Cambodia No. 516.

68960. Cambodia No. 664.

68961 to 68973.

From Luchenza, Nyasaland Protectorate, Africa. Seeds presented by L. S. Norman. Received November 26, 1926.

68961. ARACHIS HYPOGAEA L. Fabaceae. Peanut.

68961 to 68973—Continued.

A native variety which surpasses in yield any of the imported varieties.

68962. ARISTOLOCHIA sp. Aristolochiaceae.

A native creeper, of possible value as an ornamental.

68963. CRACCA VOGELII (Hook. f.) Kuntze (*Tephrosia vogelii* Hook. f.). Fabaceae.

A shrubby legume, the leaves of which are macerated by the natives of Nyasaland and thrown into the water to kill fish.

For previous introduction see No. 66250.

68964. SORGHUM VULGARE Pers. Poaceae. Sorghum.

A native variety.

68965. INDIGOFERA sp. Fabaceae. Indigo.

A native leguminous plant 2 feet high, said to be nematode resistant.

68966. JATROPHA CURCAS L. Euphorbiaceae.

A large tropical American shrub, grown in Nyasaland for the oil which is obtained from the seeds. This oil is used in soap making.

For previous introduction see No. 50835.

68967. MANISURIS EXALTATA (L. f.) Kuntz. Poaceae. Grass.

A rapid-growing annual grass used as fodder in Rhodesia, Africa, where it is native.

For previous introduction see No. 55068.

68968 and 68969. NICOTIANA TABACUM L. Solanaceae. Tobacco.

Native varieties of tobacco.

68968. No. 1. *Rabo*.

68969. No. 2. *Rabo*.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in, so that definite identification can be made.

68961 to 68973—Continued.

68970. *PHASEOLUS VULGARIS* L. Fabaceae.
Common bean.

A native variety.

68971. *STIZOLOBIUM VELUTINUM* (Hassk.)
Piper and Tracy. Fabaceae.

Said to be a cross between a black-seeded variety and a local white-seeded variety.

For previous introduction see No. 43556.

68972. *VOANDZELA SUBTERRANEA* (L.)
Thouars. Fabaceae.

A locally grown variety which is used by the natives as a relish; matures in four or five months.

For previous introduction see No. 63731.

68973. *ZEA MAYS* L. Poaceae. Corn.

A native-grown corn, originally introduced by the Portuguese into Nyasaland.

68974. *MACADAMIA TERNIFOLIA* F.
Muell. Proteaceae.

From San Diego, Calif. Seeds presented by John Stafford. Received December 7, 1926.

Two of my three trees are bearing heavily; the trees are very handsome, with straight trunks and slender branches with pendulous branchlets. No insect pests or diseases have so far injured the trees. (Stafford.)

Nuts rounded-ovoid, about 20 millimeters long; surface dull brown and somewhat roughened; shell varying in thickness from one-half to 4 millimeters, comparatively easy to crack; kernel white, tender, with a sweet flavor and of excellent quality.

For previous introduction see No. 49307.

68975. *CHAMAEDOREA TEPEJILOTE*
Liebm. Phoenicaceae. Palm.

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received November 29, 1926.

This relative of the pacayito (*Chamaedorea elegans*) is a slightly larger palm, becoming about 10 feet high with leaves 4 feet long. Doctor Purpus says that the undeveloped flowers make an excellent vegetable and are eaten throughout the State of Vera Cruz, Mexico. It grows best in shady places.

For previous introduction see No. 61386.

68976. *AMYGDALUS KANSUENSIS* (Rehder) Skeels (*Prunus kansuensis* Rehder). Amygdalaceae.

From China. Seeds collected by J. F. Rock, Arnold Arboretum, Jamaica Plain, Mass. Received December 6, 1926.

No. 14889. Kansu-Tibet border. September 13, 1926. A thorny shrub, 6 to 10 feet high, with black stems and pink flowers which appear before the leaves. The small fruits, the size of a marble or larger, contain no flesh. This species occurs on the dry arid loess slopes both in the Tao River Valley and in the arid gorges of the Minchow River and endures temperatures of 10° to 20° F. below zero. This is the earliest flowering shrub in this region, blooming in April at an altitude of 8,500

to 9,000 feet, when the country is still covered with snow and the streams are frozen. (Rock.)

For previous introduction see No. 40864.

68977. *CORYLUS HETEROPHYLLA* Fisch.
Betulaceae. Hazel.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 7, 1926.

No. 8362. *Chen tzu*. From Baream, Heilungkiang Province.

For previous introduction see No. 65622.

68978. *CITRUS* sp. Rutaceae.
Cuban shaddock.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received December 10, 1926.

Seeds of a shaddock used as a stock for citrus varieties in Cuba; especially good for navel orange, but not good for grapefruit or the kumquat. (Towns.)

68979. *EREMURUS HIMALAICUS* × *ROBUSTUS*. Liliaceae. Desert candle.

From Stockholm, Sweden. Seeds presented by Dr. Robert Fries, director, botanic garden. Received December 13, 1926.

A tall, hardy, ornamental, perennial yuccalike plant with rosy white flowers. The parents are native to central Asia.

68980. *SCHINOPSIS LORENTZII* (Griseb.) Engl. (*Quebrachia lorentzii* Griseb.).
Anacardiaceae. Quebracho.

From Tucuman, Argentina. Seeds presented by Dr. William E. Cross, Director, Estación Experimental Agrícola. Received December 10, 1926.

An Argentine timber tree with leathery, compound leaves and branched clusters of small flowers. The wood is very hard and durable, and the bark yields an important tannin of commerce.

For previous introduction see No. 43548.

68981 to 68995.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 8, 1926.

68981. *EUONYMUS* sp. Celastraceae.

No. 8363. Ertsengtientzu. October 24, 1926. *Nuan shu tiao tzu* (warming tree). This tree is said to grow on the hillside, and the wood is used for making whip handles and walking sticks.

68982. *HEMEROCALLIS* sp. Liliaceae.

Day lily.

No. 8350. Bokotu, Heilungkiang Province. October 24, 1926. *Huang hua* (yellow flower lily).

68983. *IRIS* sp. Iridaceae.

No. 8356. Bokotu, Heilungkiang Province. October 24, 1926. *Ma lien hua* (horse lily flower).

68984. *LESPEDEZA BICOLOR* Turcz. Fabaceae.
Shrub bush clover.

No. 8355. Bokotu, Heilungkiang Province. October 24, 1926. *Shan sao chu* (wild broom plant).

68981 to 68995—Continued.

For previous introduction see No. 65746.

68985. *LILIUM* sp. Liliaceae.

No. 8349. Bokotu, Heilungkiang Province. October 24, 1926. *San yu hua* (umbrella flower).

68986. *LILIUM* sp. Liliaceae.

No. 8353. Bokotu, Heilungkiang Province. October 24, 1926. *Hsiao san tzu hua* (small umbrella flower).

68987. *MALUS BACCATA* (L.) Moench. Malaceae. Crab apple.

No. 6749. September 28, 1926. Obtained at Ertseidiansky, through the Manchurian Research Society. A fine woody ornamental producing small red fruits which do not contain many fertile seeds.

For previous introduction see No. 54266.

68988. *MALUS BACCATA* MANDSHURICA (Maxim.) C. Schneid. Malaceae. Crab apple.

No. 7964. October 15, 1926. The fruits containing these seeds were from some 15 or 20 trees in the new Russian cemetery, Harbin. The trees have flowered and fruited very heavily for the last two seasons; they are very handsome when in full flower and also in the fall when the bright-red fruits are ripe.

For previous introduction see No. 45675.

68989 and 68990. *PAEONIA OBOVATA* Maxim. Ranunculaceae. Peony.

For previous introduction see No. 65188.

68989. No. 8351. Bokotu, Heilungkiang Province. October 24, 1926. *Shan shao yao* (wild peony).

68990. No. 8360. Baream, Heilungkiang Province. October 24, 1926. *Shan shao yao* (wild peony).

68991 and 68992. *QUERCUS MONGOLICA* Fisch. Fabaceae. Oak.

For previous introduction see No. 65676.

68991. No. 8358. Bokotu, Heilungkiang Province. October 24, 1926. *Tso shu tzu* or *hsiang tzu*.

68992. No. 8361. Baream, Heilungkiang Province. October 24, 1926. *Hsiang tzu*.

68993. *SALIX* sp. Salicaceae. Willow.

No. 8352. Bokotu, Heilungkiang Province. October 24, 1926. *Lang wei pa hua* (wolf tail flower).

A hardy Manchurian willow.

68994. *SYRINGA AMURENSIS* Rupr. Oleaceae. Manchurian lilac.

No. 7269. Obtained at the station of Shitoukhetsy on the Chinese Eastern Railway, October 8, 1926. A handsome shrub which grows to a height of 20 feet or more and produces large panicles of white flowers.

For previous introduction see No. 65509.

68995. (Undetermined.)

No. 8357. Bokotu, Heilungkiang Province. October 24, 1926. *Yieh ta yen* (wild opium flower).

68996. *BORASSUS FLABELLIFER* L. Phoenicaceae. Palmyra palm.

From Jaffna, Ceylon. Seeds presented by W. P. A. Cooke, division agricultural officer. Received December 22, 1926.

The famous "Palmyra palm" of India and Ceylon, which, in the northern part of this island, takes the place of the coconut palm. Though a slow grower, it is a very handsome palm when old. Inasmuch as it grows in the dry coastal regions of Ceylon, is apparently able to withstand any amount of lime, and is said to have been used successfully as a binder for sand dunes, it should prove of real value in the calcareous soils of southern Florida. In the number of uses to which it is put here it rivals the coconut. A delicate sugar is made from the sap which flows in abundance from its inflorescence when cut. The seeds are germinated and the young subterranean hypocotyl is used as a vegetable. The leaves are used in many different ways. The fruit, half the size of a coconut, is very attractive in appearance and when ripe exhales a delicate fragrance. The hull is eaten by the Tamils of Ceylon. (Note by David Fairchild under No. 66649.)

68997. *LILIUM SULPHUREUM* Baker. Liliaceae. Lily.

From Tunbridge Wells, England. Bulbs purchased from R. Wallace & Co. Received December 27, 1926.

This is described (Curtis's Botanical Magazine, pl. 7257) as a large and handsome lily, native to northern Burma, with an erect green stem 6 or 7 feet high and numerous scattered linear bright-green leaves, the longest of which are about 4 inches long and near the base of the plant. The flowers, usually in clusters of two or three, are pendent on long peduncles.

For previous introduction see No. 57676.

68998 and 68999. *CITRUS GRANDIS* (L.) Osbeck (*C. decumana* Murr.). Rutaceae. Grapefruit.

From Asia. Seeds obtained from H. J. Webb, Seattle, Wash., through W. T. Swingle, Bureau of Plant Industry. Received December 13, 1926.

68998. A red-fleshed variety of fine quality.

68999. [Seeds of unknown origin.]

69000. *ITEA YUNNANENSIS* Franch. Escalloniaceae.

From Kew, England. Cuttings presented by Dr. A. W. Hill, Director, Royal Botanic Gardens. Received December 28, 1925. Numbered October, 1926.

An ornamental evergreen shrub, native to the mountainous districts of Yunnan, southwestern China. The bark is light green, the leaves ovate and thin, and the small white flowers are in graceful axillary racemes about 6 inches long.

69001. *CALYPTROCALYX SPICATUS* (Lam.) Blume. Phoenicaceae. Palm.

From Peradeniya, Ceylon. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 26, 1926. Numbered October, 1926.

No. 281. Royal Botanic Gardens. January 3, 1926. A graceful palm 30 to 40 feet high, with pinnate leaves and slender spikes of red berries.

For previous introduction see No. 45957.

69002 to 69004.

From the Dutch East Indies. Seeds, plants, and rhizomes obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May and June, 1926. Numbered October, 1926.

69002. *LANSIUM DOMESTICUM* Jack. Meliaceae. Langsat.

No. 766. Java. Obtained in the market near the Boerboedior Temple, April 30, 1926. A handsome tropical tree of moderate size, native to tropical Asia. It bears long, dense, hanging clusters of pale-yellow berries which have aromatic juicy pulp. It is a local strain with large, fine-flavored fruits of good size and color, having only occasional mature seeds.

69003. *TREVESIA BURCKII* Boerl. Araliaceae.

No. 722. From the Royal Botanic Gardens, Sibolangit, Sumatra. March 26, 1926. A remarkable tropical plant, about 15 feet high, discovered in Sumatra in 1887 and related to the Hercules club (*Aralia spinosa* L.). The leaves, however, have a solid base of mesophyll and are then so contracted as to consist only of the midrib, and finally the tip expands into a large digitately compound blade.

69004. *XIPHIDIUM ALBUM* Hort. Haemodoraceae.

No. 428. Sibolangit Botanic Gardens, Sumatra. February 21, 1926. Rhizomes of a beautiful border plant for tropical gardens, having foliage which resembles that of the iris; it is said to bear attractive white flowers.

69005. *LOTUS CORNICULATUS* L. Fabaceae. Bird's-foot trefoil.

From Bologna, Italy. Seeds presented by Ditta Ernesto Pini, Società Anonima. Received October 30, 1926. Italian-grown seeds.

For previous introduction see No. 60875.

69006. *PRUNUS CERASUS MARASCA* (Host) C. Schneid. Amygdalaceae.

From Yugoslavia. Seeds sent in at the request of W. F. Wight, Bureau of Plant Industry. Received October 25, 1926.

A cherry variety grown in south-central Europe, from which the genuine Maraschino cherries of commerce are obtained.

69007. *Gossypium* sp. Malvaceae. Cotton.

From Egypt. Seeds collected by Joseph A. Mullen, Houston, Tex.; received through the Federal Horticultural Board, October 28, 1926.

Egyptian-grown cotton seeds.

69008. *LILIUM CENTIFOLIUM* Stapf. Liliaceae. Lily.

From Stevenage, Herts. England. Bulbs purchased from Clarence Elliott, Six Hills Nursery. Received October 11, 1926.

This Chinese lily was originally discovered by Reginald Farrer, according to the Botanical Magazine (pl. 8960). Mr. Farrer found it growing in a little garden at Siku, Kansu, in 1914. The stem, densely leafy and somewhat glaucous, is up to 7 or 8 feet in height, arising from a slightly depressed bulb about 3 inches in diameter. The numerous leaves are dark green above and paler below, linear or linear-lanceolate, and up to 18 inches long. The sweet-scented flowers, 6 to 18 in number, are arranged in a short, almost umbellike raceme. The individual flowers are 6 inches long and about 4 inches across the mouth. Within, the perianth is pure white, blending into lemon yellow in the throat; the outer segments are richly flushed with dark purple, while the broader inner segments are greenish with deep, brownish purple midribs. The anthers are rusty red.

For previous introduction see No. 61748.

69009 to 69019. *FICUS CARICA* L. Moraceae. Fig.

From Golfe Juan pres Cannes, Alpes Maritimes, France. Plants purchased from Paul Nabonnand. Received February 25, 1926. Numbered November, 1926.

Locally developed varieties.

69009. *Barnisotte*.

69010. *Belle Dame*.

69011. *Col de Dame*.

69012. *De Dalmatia*.

69013. *Des Abruzzes*.

69014. *Figue Grise*.

69015. *Grise de St. Jean*.

69016. *Hative d'Argenteuil*.

69017. *Kennedy tr.*

69018. *Madeleine*.

69019. *Précoce de Barcelone*.

69020 and 69021. *LILIUM* spp. Liliaceae.

From Manchuria. Bulbs obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 17, 1926.

69020. *LILIUM CONCOLOR* Salisb. Lily.

No. 6764. Ertsendiastysy. September 29, 1926. A very attractive little Japanese lily, 1 to 3 feet in height, which produces three to six bright-scarlet flowers; these are erect, star-shaped, and spotted with black. This species succeeds best in a half-shady place.

For previous introduction see No. 59381.

69021. *LILIUM DAURICUM* Ker. Candlestick lily.

No. 6765. Harbin. September 29, 1926. A plant about 3 feet in height, with a smooth or slightly furrowed stem which is green or tinged with brown or purple. The 20 to 50 horizontal leaves are 3 to 5 inches long, and the flowers, one to five in a cluster and 3 to 5 inches across, are orange-red, slightly spotted with purplish black, and tinged with yellow in the center; the anthers are red.

For previous introduction see No. 65281.

69022. CITRUS AURANTIFOLIA (Christm.) Swingle. Rutaceae. Lime.

From Los Banos, Philippine Islands. Seeds presented by J. D. Bigarino, through W. T. Swingle, Bureau of Plant Industry. Received November 4, 1926.

The native Philippine lime, known there as the dayap. It is an arborescent, thorny shrub, 10 to 15 feet high, with greenish yellow rounded fruits of pleasant acid flavor, excellent for making limeade. The wild Philippine lime is distributed generally throughout the archipelago, but the fruits are mostly of poor quality.

69023 to 69026. PHASEOLUS COCCINEUS L. Fabaceae. Scarlet Runner bean.

From Angol, Chile. Seeds presented by D. S. Bullock, Instituto Agrícola Bunster. Received November 8, 1926.

Locally grown seeds.

69023. Beans mulberry colored with dark spots.

69024. Beans mulberry colored with black spots.

69025. White beans.

69026. Light-tan beans with dark spots.

69027 to 69034.

From Kotgarh, Simla Hills, India. Seeds presented by Richard B. Gregg. Received November 3, 1926.

69027 and 69028. HORDEUM VULGARE PALLIDUM Seringe. Poaceae. Six-rowed barley.

69027. From Rorhoo, Bushaihr, near Kotgarh. October 1, 1926. A bearded barley.

69028. From Khanola, Bushaihr, near Kotgarh. October 2, 1926.

69029 to 69031. ORYZA SATIVA L. Poaceae. Rice.

69029. From Khanola, Bushaihr, near Kotgarh. October 2, 1926. A red variety grown without irrigation.

69030. From Khanola, Bushaihr, near Kotgarh. October 2, 1926. A black variety grown without irrigation. It is said to be very tasty.

69031. From Rorhoo, Bushaihr, near Kotgarh. October 1, 1926.

69032. PANICUM MILIACEUM L. Poaceae. Froso.

69033 and 69034. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceae. Common wheat.

69033. A red wheat from Khanola, Bushaihr, near Kotgarh. October 2, 1926.

69034. A red wheat from Rorhoo, Bushaihr, near Kotgarh. October 1, 1926.

69035 and 69036. EPHEDRA spp. Gneta-ceae. Joint fir.

From Chene Bourg, near Geneva, Switzerland. Seeds purchased from Henry Correvon. Received November 9, 1926.

69035. EPHEDRA FRAGILIS Desf.

A low bushy evergreen plant, native to the Mediterranean countries. The minute leaves are borne on pale green branches.

69035 and 69036—Continued.

69036. EPHEDRA HELVETICA Meyer.

An alpine evergreen bush, with pale green branches and minute leaves, native to Switzerland. This is said to yield the alkaloid known as ephedrine, a powerful heart stimulant.

69037. FRANKLINIA ALATAMAHIA Bartr. (Gordonia pubescens L'Herit.). Theaceae.

From Philadelphia, Pa. Plants presented by Samuel N. Baxter, landscape gardener, Fairmount Park. Received November 18, 1926.

An ornamental shrub or small tree, up to 30 feet in height, native to Georgia, but not seen in the wild state since 1790. The bright-green, oblong-obovate leaves turn scarlet in fall and the pure-white flowers, about 3 inches across, appear in September and October.

For previous introduction see No. 39414.

69038. MACADAMIA TERNIFOLIA F. Muell. Proteaceae.

From Santa Barbara, Calif. Seeds presented by M. M. Yates. Received November 4, 1926.

Nuts spherical, about 22 millimeters in diameter; surface dull brown mottled with yellow, shell 2 to 6 millimeters in thickness and very hard to crack; kernel whitish, with sweet, chestnutlike flavor and of good quality.

69039. MACADAMIA TERNIFOLIA F. Muell. Proteaceae.

From Glendora, Calif. Seeds obtained through Robert W. Hodgson, University of California, Berkeley, Calif. Received November 4, 1926.

Trees of regular bearing habit; nuts rounded-ovoid, about 25 centimeters long; surface dull brown, usually mottled with yellow; shell 1 to 4 millimeters thick and very hard to crack; kernel white, with sweet, chestnutlike flavor, and of good quality.

69040. MACADAMIA TERNIFOLIA F. Muell. Proteaceae.

From Fort Myers, Fla. Seeds presented by Ewald Stulpner. Received November 4, 1926.

The one tree which I have is the only bearing tree of this species growing in this vicinity. (Stulpner.)

Husks gray to black, 2 millimeters thick; nuts rounded-oblate, about 22 millimeters long; surface dull yellowish brown; shell 1 to 6 millimeters thick, and very hard to crack; kernel white, slightly coarse in texture, fairly sweet, and of good quality.

69041. POPULUS TREMULA L. Salicaceae. Poplar.

From Stockholm, Sweden. Cuttings presented by Dr. Robert Fries, director, botanic garden. Received November 22, 1926.

Variety *erecta*. An erect variety of the European aspen.

69042. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.

Common wheat.

From Stockholm, Sweden. Seeds obtained through C. E. Leighty, Bureau of Plant Industry. Received November 22, 1926.

Swedish-grown seeds.

69043. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.

Common wheat.

From Ukraina, Russia. Seeds obtained through J. W. Pincus, Amtorg Trading Corporation, New York, N. Y. Received November 15, 1926.

Ukrainka. A selection by the Mironovsky Plant Breeding Station, which has given excellent results in various sections of Ukraina. (Pincus.)

69044. *ZIZANIA LATIFOLIA* (Griseb.) Stapf. Poaceae.

Wild rice.

From Nanking, China. Seeds presented by Leslie Hancock, University of Nanking. Received November 15, 1926.

Seeds from plants growing in a swampy situation at Lotus Lake, near Nanking, China. (Hancock.)

For previous introduction see No. 62270.

69045. *CAESALPINIA CORIARIA* (Jacq.) Willd. Caesalpinaceae. Divi-divi.

From Moca, Dominican Republic. Seeds presented by Dr. R. Ciferri, Director, Estación Nacional Agronómica. Received November 18, 1926.

A small, handsome, spreading, tropical American tree or large shrub with feathery foliage and fragrant white flowers. The fruits, rich in tannic acid, are used in the United States in the manufacture of leather. A full-grown tree produces about 100 pounds of pods annually, and the yellow powdery substance filling these pods contains about 50 per cent of high-quality tannin, according to Record (Timbers of Tropical America, p. 251).

For previous introduction see No. 66650.

69046 to 69049. *GOSSYPIMUM* spp. Malvaceae. Cotton.

From Cairo, Egypt. Seeds presented by the Royal Agricultural Society, through T. H. Kearney, Bureau of Plant Industry. Received November 13, 1926.

Locally grown cotton strains.

69046. *GOSSYPIMUM* sp.

Maarad 87. M 26-21-8 strain.

69047. *GOSSYPIMUM* sp.

Maarad 104. M 10-400-18 strain.

69048. *GOSSYPIMUM* sp.

Maarad 18. M 26-33-17 strain.

69049. *GOSSYPIMUM* sp.

Maarad 120. M 31-268-14 strain.

69050. *MANGIFERA INDICA* L. Anacardiaceae. Mango.

From Port of Spain, Trinidad, British West Indies. Seeds presented by N. F. Graham. Received October 5, 1926.

Graham mango. A variety with large luscious fruits which often weigh 30 ounces.

69051 to 69055.

From Egypt. Seeds presented by Mahmoud Samy Pasha, Egyptian Minister, through C. R. Ball, Bureau of Plant Industry. Received October 4, 1926.

Locally grown seeds obtained from the Gabal Asfar farm, main drainage department, Ministry of Public Works, Egypt.

69051. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. Six-rowed barley.

Baladi.

69052. *TRIFOLIUM ALEXANDRINUM* L. Fabaceae. Berseem.

Muscovi berseem.

69053. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

Hindi.

69054. *VICIA FABA* L. Fabaceae. Broad bean.

Baladi.

69055. *ZEA MAYS* L. Poaceae. Corn.

69056 to 69059. *PRUNUS TOMENTOSA* Thunb. Amygdalaceae.

Manchu cherry.

From Geneva, N. Y. Bud wood selected in 1922 by George M. Darrow, Bureau of Plant Industry. Numbered October, 1926.

69056. A large bush producing fruits which are larger and less acid than the average. They make a fine sauce.

69057. A spreading bush 4 to 5 feet high, which produces an abundance of globose fruits.

69058. The fruits were still on this tree the middle of August. It is the second best tree of the collection.

69059. Selected from a superior strain.

69060. *JOANNESIA PRINCEPS* Vell. Euphorbiaceae.

From Minas Geraes, Brazil. Seeds obtained through the United States Federal Horticultural Board. Received May 11, 1922. Numbered October, 1926.

A large tropical American tree, with handsome digitately three-foliolate to seven-foliolate leaves about 4 inches long and coconutlike fruits about 5 inches in diameter with four large oily seeds. It is related to the tung-oil tree (*Aleurites fordii*).

69061. *ZEA MAYS* L. Poaceae. Corn.

From Egypt. Seeds presented by Mahmoud Samy Pasha, Egyptian Minister, through C. R. Ball, Bureau of Plant Industry. Received October 4, 1926.

Locally grown seeds obtained from the Gabal Asfar farm, main drainage department, Ministry of Public Works, Egypt.

69062. *TRIFOLIUM INCARNATUM* L. Fabaceae. Crimson clover.

From Bordeaux, France. Seeds presented by M. Catros Gerand, through Mrs. Robert Davis, Margaux, Gironde, France. Received October 1, 1926.

Locally grown seeds.

69063. ATTALEA COHUNE Mart. Phoeniceae. Cohune.

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received October 9, 1926.

The cohune is a magnificent feather-leaved palm, native to the West Indies and Central America, which reaches a height of 40 feet, with leaves about 20 feet long, produced abundantly at the top of the trunk. The yellowish flowers are borne very freely, and the ovoid fruit, 2 to 3 inches long, contains the seed or nut which yields an oil of considerable value. According to Commerce Reports, May 9, 1919, this oil is of high quality, finds a ready sale for cooking purposes, and is suitable for any use to which a good cooking oil may be applied.

For previous introduction see No. 60984.

69064. LILIUM sp. Liliaceae. Lily.

From Hong Kong, China. Bulbs obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received October 12, 1926.

No. 623. *Paak hop*. September 11, 1926. Purchased in the market and said to have been grown locally for the flowers. The bulbs are eaten as a special article of diet.

69065. CROTON ELUTERIA (L.) Swartz. Euphorbiaceae. Cascarilla.

From Nassau, Bahama Islands. Seeds purchased through William A. Smale, United States vice consul in charge. Received October 2, 1926.

An evergreen tropical shrub about 6 feet in height, native to the Bahama Islands. This shrub yields the "cascarilla bark" used in medicine.

69066. DIOSCOREA ALATA L. Dioscoreaceae. Yam.

From St. Croix, Virgin Islands. Tubers presented by W. M. Perry, horticulturist, Agricultural Experiment Station. Received March 23, 1926. Numbered October, 1926.

Sealtop yam. A distinct advantage of this variety is that it does not burrow its way deeply into the ground, hence it is easy to dig. It may be necessary to throw some soil over the roots if they push themselves upward out of the ground. We have harvested yams weighing 11 pounds each, but the average weight is 5 pounds. It is considered a superior yam. I do not know the origin of the word "Sealtop," as it appears to be purely a local name. (Note by Mr. Perry under No. 62866.)

69067 and 69068. DIOSCOREA spp. Dioscoreaceae. Yam.

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, horticulturist, Agricultural Experiment Station. Received March 23, 1926. Numbered October, 1926.

69067. DIOSCOREA sp.

Mapuey blanco yam.

69068. DIOSCOREA sp.

Mapuey morado. The yampi is usually of even form and somewhat club-shaped and the tubers are commonly 4 to 10 ounces in weight; the inner skin is pink. The flesh is white but often becomes slightly grayish when cooked. The flavor

69067 and 69068—Continued.

is much like that of the white potato, but the yampi has in addition an agreeable sweetness. (Note by R. A. Young under No. 58662.)

69069 to 69071. DIOSCOREA spp. Dioscoreaceae. Yam.

From Jaffna, Ceylon. Tubers obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 26, 1926. Numbered October, 1926.

69069. DIOSCOREA sp.

No. 402. Jaffna Experiment Station. February 6, 1926. The "King yam" of the sandy region of Jaffna, which is considered the best in that region. The tubers are purple fleshed, large, and of good flavor, though slightly gummy.

69070. DIOSCOREA sp.

No. 403. Jaffna Experiment Station. A variety peculiar in that it produces only a small underground tuber but many large aerial ones. These aerial tubers are boiled and eaten like ordinary yams, though the skin is bitter.

69071. DIOSCOREA sp.

No. 405. Jaffna Experiment Station. February 6, 1926. "Kombulvalli yam" of Jaffna. The tubers are large, irregularly shaped, and of good quality, but evidently inferior to the King yam in the estimation of the Singhalese.

69072 to 69077. DIOSCOREA spp. Dioscoreaceae. Yam.

From Kwangtung Province, China. Tubers obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February and April, 1926. Numbered October, 1926.

69072. DIOSCOREA sp.

No. 329. Chukkouen, Lohkongtung. December 27, 1925. *Noh mai shue, sham shue*. A commonly cultivated variety propagated by means of cuttings of the tubers which are rolled in straw ashes before planting. The tubers are long and smooth, cylindrical in shape, sometimes flattened at the tip, with a tuft of roots at the point of union with the stem; the flesh is white but not fibrous.

69073. DIOSCOREA sp.

No. 359. Yeunguk, Lungtau Mountain. January 13, 1926. *Hung shue*. The skin and outer portion of the flesh are red, therefore the variety is called "red yam."

69074. DIOSCOREA sp.

No. 360. Yeunguk, Lungtau Mountain. January 13, 1926. *To kei shue*. The skin and outer portion of the flesh are red. It is called "roundhead yam" because of its globular shape.

69075. DIOSCOREA sp.

No. 361. Yeunguk, Lungtau Mountain. January 13, 1926. *Ng chau shue, so pa shue, keuk paan shue*. A white-skinned, white-fleshed variety with flattened tubers.

69076. DIOSCOREA sp.

No. 362. Yeunguk, Lungtau Mountain. January 13, 1926. *To kei shue*. A white-skinned, white-fleshed variety.

69072 to 69077—Continued.

69077. *DIOSCOREA* sp.

No. 391. January 23, 1926. *Taai shue*. A large variety commonly cultivated in the vicinity of Shiuchow, where these tubers were obtained.

69078. *PRUNUS MUME* Sieb. and Zucc.
Amygdalaceae. Japanese apricot.

From North Chevy Chase, Md. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received October 14, 1926.

Variety *Megumi-no-miyako*. Seeds from the 1926 crop of fruits of a tree, growing at the residence of Doctor Fairchild, who obtained the original stock from Japan about 1906. The tree has given evidence, according to Doctor Fairchild, of being resistant to the attacks of the peach borer, and may therefore have value as a stock.

69079 to 69093. *PRUNUS* spp. Amygdalaceae. Japanese flowering cherry.

Potomac Park, Washington, D. C., and North Chevy Chase, Md. Bud wood collected by Paul Russell, Bureau of Plant Industry. Received July and September, 1925. Numbered October, 1926.

69079 to 69089. *PRUNUS SERRULATA* Lindl.

69079. "In the Woods," North Chevy Chase, Md., residence of David Fairchild. Tree 87. *Amanogawa*. Tree fastigiate in habit, about 20 feet high; bark dark gray; young foliage bronze green; flowers pale pink, semidouble, fragrant, about 1½ inches across, in erect clusters of three, blooming about midseason. The upright habit of this form, comparable to that of the Lombardy poplar, makes it of special value for certain architectural effects.

69080. Potomac Park. Tree 1120. *Ariake*. Tree spreading in habit, about 18 feet high; bark gray; flowers very pale pink, nearly single, 2 inches or more across, long stemmed, in clusters of two to four; blooming about midseason. The varietal name signifies "dawn" in Japanese, probably referring to the delicate pink tints of the flowers.

69081. Potomac Park. Tree 1143. *Fugenzo*. Tree large, spreading, and probably the most vigorous of the double-flowered forms, up to 25 feet high; young foliage bronze colored; buds deep pink, truncate; flowers double pink, nearly 2 inches across, in two-flowered to four-flowered clusters, blooming rather late.

69082. Potomac Park. Tree 1144. *Fukurokuju*. Tree erect, branching several feet from the ground and forming a rounded, compact head, about 20 feet high; bark reddish brown; young foliage brownish green; flowers pink, semidouble, about 1½ inches across, in clusters of three or four which are crowded toward the ends of the branches in a striking manner; blooming about midseason.

69083 and 69084. *Mikurumagaeishi*. Tree upright-spreading in habit, about 18 feet high, resembling *Ariake* (No. 69080) in general, but with pinker flowers and less wrinkled petals. Blooms about midseason.

69079 to 69093—Continued.

69083. Potomac Park. Tree 1169.

69084. "In the Woods," North Chevy Chase, Md., residence of David Fairchild. Tree 100.

69085. "In the Woods," North Chevy Chase, Md., residence of David Fairchild. Tree 105. *Senriko*. Tree upright ascending in habit, about 20 feet high; bark brownish gray; young foliage coppery green; flowers single or nearly so, white with a pink blush, fragrant, about 1½ inches across, usually three or four in a cluster; blooming about midseason.

For previous introduction see No. 67957.

69086. Potomac Park. Tree 1146. *Shirayuki*. Tree erect, branching within a few feet of the ground, about 18 feet high; bark dark gray; flowers pure white, often cup-shaped, about an inch across, in clusters of two to four. Blooms right after *Yoshino* (No. 69092), the earliest variety to flower.

69087. "In the Woods," North Chevy Chase, Md., residence of David Fairchild. Tree 90. *Shirofugen*. A variety closely resembling *Fugenzo* (No. 69081), from which it differs in having lighter colored flowers.

69088. Potomac Park. Tree 1140. *Takinioi*. Tree rather small and spreading, about 15 feet high; bark brownish gray; flowers pure white, single, very fragrant, about 1½ inches across, in clusters of three or four; blooming midseason. In Japanese the varietal name means "fragrant white cascade."

For previous introduction see No. 67956.

69089. "In the Woods," North Chevy Chase, Md., residence of David Fairchild. Trees 95 and 110. *Yae-murasaki*. Tree spreading in habit, about 20 feet high; vigorous; young foliage brownish green; buds deep pink, almost red; flowers deep pink, semidouble, about 1½ inches across; blooming about midseason. An excellent free-flowering variety.

69090. *PRUNUS SIEBOLDII* (Carr.) Wittmack.

"In the Woods," North Chevy Chase, Md., residence of David Fairchild. Tree 53. *Naden*. Tree upright spreading in habit, about 18 feet high; bark dark gray; flowers pink, semidouble, usually in clusters of three or four, about 1½ inches across, blooming in midseason.

69091. *PRUNUS SUBHIRELLA AUTUMNALIS* Makino.

"In the Woods," North Chevy Chase, Md., residence of David Fairchild. Tree 92. *Sugatsuzakura*. Tree spreading with a rounded crown, about 20 feet high; flowers rosy pink, semidouble, about half an inch in diameter, produced freely early in the spring and also sparingly in October.

For previous introduction see No. 67960.

69092. *PRUNUS YEDENSIS* Mats.

Potomac Park. Tree 1148. *Yoshino*. A handsome Japanese tree, ultimately

69079 to 69093—Continued.

about 40 feet in height, with smooth, pale-gray bark, thick, wide-spreading branches, and large, sharply toothed leaves which normally appear after the flowers have passed their prime. The flowers, borne in profusion in the spring, are single, pink, or nearly white, and about an inch across. The small black fruits are sometimes produced abundantly and afford an easy means of propagation.

For previous introduction see No. 67964.

69093. *PRUNUS YEDOENSIS* PERPENDENS Wilson.

"In the Woods," North Chevy Chase, Md., residence of David Fairchild. *Shidareyoshino*. A weeping form of the Yoshino variety, differing only in habit.

69094. *LOTUS ANGUSTISSIMUS* L. Fabaceae.

From Auckland, New Zealand. Seeds purchased from Arthur Yates & Co. Received October 9, 1926.

An upright or ascending leguminous annual, about a foot high, native to the Mediterranean countries. The golden-yellow flowers are often reddish at the tips.

For previous introduction see No. 51856.

69095 to 69101.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received October 11, 1926.

69095. *HYPERICUM ASCYRON* L. Hypericaceae.

No. 6462. Shitankhetsy. August 24, 1926. A hardy ornamental yellow-flowered shrub.

69096. *PHLEUM PRATENSE* L. Poaceae. Timothy.

No. 6456. Shitankhetsy. August 23, 1926.

69097. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

No. 6474. Ertsingtientze. August 30, 1926. A wild apricot of Manchuria, which becomes a good-sized tree. The fruits are edible.

69098. *PRUNUS GLANDULOSA* Thunb. Amygdalaceae. Cherry.

No. 6473. Shitankhetsy. August 27, 1926. This pink-flowered Chinese shrub, often grown as an ornamental, bears abundant fruits with a fresh acid flavor which make excellent preserves.

For previous introduction see No. 60983.

69099. *SPIRAEA* sp. Rosaceae. Spirea.

No. 6463. Shitankhetsy. August 24, 1926. An ornamental white-flowered bush, native to Manchuria.

69100. *TRIFOLIUM HYBRIDUM* L. Fabaceae. Alsike clover.

No. 6455. Shitankhetsy. August 23, 1926. A pink-headed clover, resembling our red variety though not so large.

69101. *TRIFOLIUM REPENS* L. Fabaceae. White clover.

No. 6454. Shitankhetsy. August 23, 1926. A small white clover resembling the one found in the United States.

69102. *OMPHALEA OLEIFERA* Hemsl. Euphorbiaceae.

From Moyuta, Guatemala. Seeds presented by F. Marcucci G. Received October 19, 1926.

This Central American tree, known in Guatemala as palo de queso, matasano cimarron, and hoja de queso, is called tambor in Salvador, according to P. C. Standley (Pharmaceutical Journal, vol. 110, p. 489). The main value of the tree lies in the fruit and seeds. From the latter is obtained an oil with the same properties as castor oil, but with an agreeable flavor. This oil is also used for making soap, for illumination, and in cooking. The immature fruits when boiled are said to have an excellent flavor, and the ripe seeds are eaten as a delicacy.

For previous introduction see No. 64811.

69103 to 69107.

From Stockholm, Sweden. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received October 19, 1926.

The following material was obtained at the Stockholm Botanic Gardens, September 30, 1926.

69103. *LARIX KURILENSIS* Mayr. Pinaceae. Larch.

No. 920. A distinctive and interesting species, originally from the Kurile Islands, Japan; said to grow 70 feet in height.

69104. *LIGULARIA SIBIRICA* (L.) Cass. Asteraceae.

No. 918. A northern Chinese hardy perennial with reddish flowers which seems to be peculiarly suited to conditions in Sweden and should be tried in the New England States.

For previous introduction see No. 36762.

69105 to 69107. *RHEUM* spp. Polygonaceae. Rhubarb.69105. *RHEUM FRANZENBACHII* Muentzer.

No. 919. A rapidly growing species of rhubarb, native to temperate Asia, which is a striking ornamental suitable for borders and possibly for breeding purposes.

69106. *RHEUM MACROPTERUM* Mart.

No. 921. A plant with handsome foliage and striking clusters of flowers and seeds, valuable perhaps for borders or breeding purposes. Country of origin unknown.

69107. *RHEUM WITTROCKII* Lundstroem.

No. 917. A tall broad-leaved European species with light-pink flowers and fruits.

69108. *PRUNUS YEDOENSIS* Mats. Amygdalaceae. Yoshino cherry.

From North Chevy Chase, Md. Seeds collected by Paul Russell, Bureau of Plant Industry, June 9, 1926. Numbered October, 1926.

For previous introduction and description see No. 69092.

69109 and 69110.

From Honolulu, Hawaii. Seeds presented by W. A. Setchell, through T. H. Kearney, Bureau of Plant Industry. Received October 18, 1926.

69109. *GOSYPIUM TOMENTOSUM* Nutt.
Malvaceae. Cotton.

Hawaiian-grown seeds.

69110. *KOKIA ROCKII* Lewton. Malvaceae.
Kokio.

A handsome tree, native to the island of Molokai, Hawaii, which becomes about 20 feet high. The somewhat fleshy deep-green orbicular leaves are in whorls at the ends of the branches, and the bright-scarlet flowers, about 6 inches across, are freely produced.

69111. *DEGUELIA DALBERGIOIDES* (Baker) Taub. (*Derris dalbergioides* Baker). Fabaceae.

From Dar es Salaam, Tanganyika Territory, East Africa. Seeds presented by A. H. Kirby, Director of Agriculture. Received October 26, 1926.

A small, spreading tree, described by Hooker (Flora of British India, vol. 2, p. 241) as being about 20 feet high, with rigid dark-green compound leaves and copious racemes of pink flowers. Native to eastern India and Java.

For previous introduction see No. 63768.

69112 to 69117.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received October 11, 1926.

69112. *ACER GINNALA* Maxim. Aceraceae.
Maple.

No. 6457. Shitankhetsy. August 23, 1926.

69113. *IMPATIENS NOLITANGERE* L. Impatiaceae.

No. 6459. Near Shitankhetsy. August 24, 1926. A yellow-flowered herb.

69114. *IMPATIENS* sp. Impatiaceae.

No. 6465. August 26, 1926. A creamy white-flowered herb from 17 Verst, a station on the new branch line of the Chinese Eastern Railway.

69115. *RUBUS CRATAEGIFOLIUS* Bunge. Rosaceae. Red raspberry.

No. 6461. Shitankhetsy. August 25, 1926. A large red raspberry which caps easily. It may be a wild species or perhaps a seedling from the many cultivated plants grown here.

69116. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

No. 6468. Shitankhetsy. August 27, 1926.

69117. *TRIFOLIUM LUPINASTER* L. Fabaceae. Clover.

No. 6469. Shitankhetsy. August 27, 1926.

69118 to 69125.

From Buitenzorg, Java. Seeds presented by Dr. L. Koch, Chief of the Plant-Breeding Station for Annual Crops. Received October 25, 1926.

69118 to 69125—Continued.

69118. *CALOPOGONIUM MUCUNOIDES* Desv. Fabaceae.

A tropical American plant which is said to be popular as a cover plant in Sumatra, according to J. N. Milsom and E. A. Curtler (Malayan Agricultural Journal, vol. 13, No. 8, August, 1925, pp. 271-72). These authorities state that a fair cover is obtained after three months from sowing, when flowering commences. The plant is a vigorous creeping herb which forms a mat of foliage $1\frac{1}{2}$ feet or so in thickness over the soil. The stems, 3 to 10 feet long, form roots at each node. The pale-blue flowers are in racemes 1 to 4 inches long.

For previous introduction see No. 66085.

69119. *CROTALARIA ANAGYROIDES* H. B. K. Fabaceae.

This species is now given preference here in Java as green manure; it produces more vegetation and does not pack down easily. It is especially satisfactory in higher altitudes and is in such great demand for the tea plantations in the higher mountains that we have to limit our seed distributions to small quantities. (Note by Dr. P. J. S. Cramer under No. 58366.)

For previous introduction see No. 66251.

69120. *CROTALARIA USARAMOENSIS* Baker f. Fabaceae.

This East African crotalaria has been tested in Java as a green manure, according to Dr. P. J. S. Cramer, Director of the Department of Agriculture, Buitenzorg, who also states that it has proved very successful as a green manure when grown in alternation with corn, producing large quantities of vegetation rich in nitrogen. In the cinchona plantations it is very satisfactory, as it endures partial shade and forms a dense low growth which keeps the edges of the terraces together.

For previous introduction see No. 64064.

69121. *SORGHUM VULGARE* Pers. Poaceae. Sorghum.

Variety *Gandroeng Degem* 22. A locally developed strain.

69122. *MIMOSA INVISA* Mart. Mimosa-ceae.

A prostrate or ascending tropical leguminous plant with sensitive feathery foliage and rose-colored flowers. In Java this has been used as a cover plant.

For previous introduction see No. 45618.

69123 to 69125. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

Locally developed strains.

69123. Variety *Kedelee* 16.

69124. Variety *Kedelee* 27.

69125. Variety *Kedelee* 30.

69126 to 69142.

From Kotgarh, Simla Hills, India. Seeds presented by Richard B. Gregg. Received October 20, 1926.

Seeds collected in the Spiti region, western Tibet, in August, 1926.

69126 to 69142—Continued.

69126. *AVENA FATUA* L. Poaceae. Oats.*Kussam* or *Chak*.69127. *BRASSICA* sp. Brassicaceae. Mustard.*Yunker*. The leaves are eaten as green vegetables, and the seeds are made into oil.69128. *FAGOPYRUM TATARICUM* (L.) Gaertn. Polygonaceae.*Kangra buckwheat*.*Dao*.

For previous introduction see No. 64366.

69129. *FAGOPYRUM VULGARE* Hill (*F. esculentum* Moench.). Polygonaceae. Buckwheat.*Gyamra*.69130 to 69133. *HORDEUM VULGARE COELESTE* L. Poaceae. Six-rowed barley.69130. *Na*. A white barley.69131. *Nahaver*. A red barley.69132. *Zammer*.

69133. No. 1.

69134 and 69135. *HORDEUM VULGARE PALIDUM* Seringet. Poaceae.

Six-rowed barley.

69134. *Sua*. 69135. No. 2.69136. *LENS ESCULENTA* (L.) Moench. Fabaceae. Lentil.*Kirzeh*. A variety of Dal.69137. *MEDICAGO FALCATA* L. Fabaceae. Alfalfa.*Ol* or *Bugsug*. A very good forage for cattle.69138. *PANICUM MILIACEUM* L. Poaceae. Proso.*Tsche*.69139 and 69140. *PISUM SATIVUM* L. Fabaceae. Pea.69139. *Shamma*. This variety is said to give several yields per season and to be very nourishing.

69140. Though occasionally planted in the early spring, this variety is usually planted in late September or early October and is ready for cutting and harvesting in May. It grows to a height of about 1½ feet. By cutting off the tops in the early spring the farmers find that there is a higher yield. These cuttings are eaten as greens.

69141. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.*To*. A white variety.69142. *VICIA FABA* L. Fabaceae. Broad bean.*Changtan*. A large black variety.

69143 to 69165.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received October 18, 1926.

69143. *SESBANIA GRANDIFLORA* Poir. Fabaceae.

69143 to 69165—Continued.

A small rapid-growing soft-wooded tree, 15 to 20 feet high, with pinnate leaves and large pendulous white flowers, followed by long sickle-shaped pods. The fleshy petals are used in curries and soups in the Indian Archipelago, where this tree is native. The leaves and young shoots are sometimes used as fodder.

For previous introduction see No. 57079.

69144. *ALBIZZIA LUCIDA* (Roxb.) Benth. Mimosaceae.

A handsome spreading leguminous tree with attractive feathery leaves; native to the East Indies.

For previous introduction see No. 33553.

69145. *BRADBURYA PLUMIERI* (Turp.) Kuntze (*Centrosema plumieri* Turp.). Fabaceae.

An attractive tropical American leguminous vine, with red and white flowers and large numbers of smooth pods about 8 inches long. It is said to grow in dense shade in Brazil, climbing to the tops of trees to reach the sun.

For previous introduction see No. 48597.

69146. *BRADBURYA PUBESCENS* (Benth.) Kuntze (*Centrosema pubescens* Benth.). Fabaceae.

A slender leguminous vine, up to about 6 feet in length, with trifoliolate leaves and oval leaflets, the latter about 2 inches long, and white or yellowish small flowers. Native to tropical America.

For previous introduction see No. 65315.

69147 to 69151. *CASSIA* spp. Caesalpinia-ceae.69147. *CASSIA BICAPSULARIS* L.

An ornamental yellow-flowered evergreen shrub about 4 feet high, native to the West Indies.

69148. *CASSIA PAPUANA* Hort.

A tender ornamental yellow-flowered shrub.

69149. *CASSIA QUINQUANGULATA* Rich.

A handsome tropical evergreen shrub, about 7 feet high, with yellow flowers.

69150. *CASSIA ROTUNDIFOLIA* Pers.

An annual bushy leguminous plant, native to tropical America, with small hairy compound leaves and yellow flowers.

For previous introduction see No. 32333.

69151. *CASSIA TIMORIENSIS* DC.

A rather low tree with slender downy branches, pale-green leaves up to 9 inches in length, bright-yellow flowers, and thin glossy flexible pods sometimes 6 inches long. The tree is distributed throughout the Malay Archipelago and the Philippines.

For previous introduction see No. 55026.

69143 to 69165—Continued.

69152. *CLITORIA HETEROPHYLLA* Lam. Fabaceae.

As described by Lamarck (Encyclopédie Méthodique Botanique, vol. 2, p. 51), this East Indian plant is a climbing perennial with threadlike stems and compound leaves consisting of five small green leaflets which vary in form from orbicular to linear, borne on a winged axis. The blue flowers are borne singly in the leaf axils.

For previous introduction see No. 65298.

69153. *ELAEOCARPUS GRANDIFLORUS* J. E. Smith. Elaeocarpaceae.

An ornamental evergreen shrub about 20 feet high, with white and crimson flowers. Native to Mauritius.

69154. *ELAEOCARPUS TREUBII* Hochr. Elaeocarpaceae.

An East Indian evergreen shrub with white flowers. Of possible ornamental value.

69155. *ERYTHRINA FUSCA* Lour. Fabaceae.

A large handsome shrub up to 8 feet high, with brown bark, unarmed compound leaves, and terminal racemes of brown-red flowers. Native to Indo-China.

69156. *JATROPHA MULTIFIDA* L. Euphorbiaceae.

A tropical American shrub, 5 to 15 feet high, with deeply divided palmate leaves and scarlet flowers.

For previous introduction see No. 60398.

69157. *JATROPHA PODAGRICA* Hook. Euphorbiaceae.

A handsome Central American shrub 1 or 2 feet high, with peltate, three-lobed to five-lobed leaves, 4 to 8 inches wide, and orange flowers with scarlet petals.

69158. *MELIA CANDOLLEI* Juss. Meliaceae.

A tropical evergreen tree, native to the Dutch East Indies, with pinnate foliage resembling that of the ash.

69159. *PARKIA TIMORIANA* (DC.) Merr. Mimosaceae. Cupang.

A huge and remarkably handsome quick-growing tree, which attains a height of 120 feet or more, with a clear smooth trunk and beautiful fine-feathery pinnate leaves. Native to the Malay Peninsula, Burma, etc. It has been introduced into and become well established in Ceylon, thriving in the low moist country up to 2,000 feet. The long pods, which grow in clusters, contain a quantity of white powdery farinaceous substance. The tree is easily propagated by seed.

For previous introduction see No. 61064.

69160. *PITHECOLOBIUM JUNGHUHNIANUM* Benth. Mimosaceae.

A tropical Asiatic leguminous tree with handsome feathery foliage.

69161. *PITHECOLOBIUM UMBELLATUM* (Vahl) Benth. Mimosaceae.

A low ornamental tree with feathery foliage, native to the East Indies.

69162. *PONGAM PINNATUM* (L.) W. F. Wight (*P. glabra* Vent.). Fabaceae.

A tall erect tree or sometimes a climbing shrub, with compound leaves com-

69143 to 69165—Continued.

posed of five to seven pairs of oblong leaflets and simple racemes of white flowers. The woody pods are about one-fourth of an inch thick and an inch and a half long. Native to tropical Asia. Because of its bright handsome foliage this tree has been recommended as an ornamental for mild-wintered regions.

For previous introduction see No. 66152.

69163. *SARACA INDICA* L. Caesalpiniaceae.

One of the handsomest of Indian ornamental trees, producing large heads of the most brilliant scarlet flowers imaginable. While restricted to the tropical sections of India, it may be sufficiently hardy to succeed in southern Florida. (Note by Wilson Popenoe under No. 36092.)

For previous introduction see No. 66154.

69164. *SESBANIA PAULENSIS* Barb-Rodr. Fabaceae.

A leguminous shrub described by Rodrigues (Plantas Novas Cultivadas Jardim Botânico do Rio de Janeiro, vol. 2, p. 13) as of erect habit, about 10 feet high, with narrow angular branches, finely pinnate leaves, and handsome yellow flowers in few-flowered racemes.

For previous introduction see No. 65306.

69165. *SINDORA SUMATRANA* Miquel. Caesalpiniaceae.

An unarmed ornamental East Indian tree with panicles of small flowers and stiff pinnate leaves with few leaflets.

69166. *ASIMINA TRILOBA* (L.) Dunal. Annonaceae. Papaw.

From North Chevy Chase, Md. Seeds collected by David Fairchild, Bureau of Plant Industry. Received October 12, 1926.

A large-fruited strain of the papaw, a relative of the tropical Annonas, which is native to the eastern and southern United States. Collected at Doctor Fairchild's home, "In the Woods."

For previous introduction see No. 51703.

69167. *RUBUS ARTICUS* L. Rosaceae.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received October 7, 1926.

No. 6329. July 25, 1926. From the White River Valley, near Bariam, A Manchurian bramble with medium-sized red berries.

69168. *LAPAGERIA ROSEA* Ruiz and Pav. Liliaceae. Copihue.

From Angol, Chile. Plants presented by E. E. Reed, Instituto Agrícola Bunster. Received October 21, 1926.

Copihue. This, the national flower of Chile, has been occasionally grown in northern greenhouses. It is a climbing plant of slow growth, with slender wiry stems and bright tubular flowers about 3 inches long. The plant requires an acid soil. (Note by Wilson Popenoe under No. 58022.)

69169. *JACQUINIA* sp. Theophrastaceae.

From Ecuador. Seeds obtained by Waldo L. Schmitt, United States National Museum. Received October 28, 1926.

Seeds from San Jose de Amen, halfway between Guayaquil and Santa Elena. An ornamental tropical hollylike tree with deep-red flowers, native to eastern Ecuador, where the round fruits, resembling small oranges in color and shape, are used by the natives for stupefying fish.

69170. *PSIDIUM* GUAJAVA L. Myrta-ceae. Guava.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received November 2, 1926.

A Trinidad variety, grown in Cuba, which produces fruits weighing as much as 10 ounces. These have a pale yellow surface and strawberry-red flesh, with few seeds and relatively large proportion of firm flesh of a very agreeable sweet taste.

69171 to 69227.

From Canton, China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received October 29, 1926.

69171. *FICUS* sp. Moraceae.

No. 620. August 20, 1926. *Ngau nai tsai*. A shrub which grows in waste places on Honam Island. The leaves are glabrous and shiny green and the edible fruits, when ripe, are red to purple. The plant is very ornamental and may be of interest in connection with fig-breeding work.

69172 to 69226. *ORYZA SATIVA* L. Poaceae. Rice.

69172. No. 565. *In tsui hung kuk*. A first-crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for five years. The growing season is 116 days, and the average yield is 2,840 pounds per acre.

69173. No. 566. *Paak kuk noh*. A first-crop, glutinous variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for five years. The growing season is 118 days, and the average yield 2,590 pounds per acre.

69174. No. 567. *Sz chuen tsim kuk*. A first-crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for five years. The growing season is 121 days, and the average yield is 2,390 pounds per acre.

69175. No. 568. *Hoh kaau kuk*. A first crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for five years. The growing season is 121 days, and the average yield is 2,314 pounds per acre.

69176. No. 569. *Tsat kit miu kuk*. A first crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which

69171 to 69227—Continued.

has been growing at the Canton Christian College for five years. The growing season is 114 days, and the average yield is 2,225 pounds per acre.

69177. No. 570. *So lo paak kuk*. A first crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for five years. The growing season is 121 days, and the average yield is 2,530 pounds per acre.

69178. No. 571. *So shi paak kuk*. A first crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for five years. The growing season is 113 days, and the average yield is 1,935 pounds per acre.

69179. No. 572. *Tung tsz tsim kuk*. A first crop, starchy variety originally from the Lin district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 3,200 pounds.

69180. No. 573. *Tung koon paak kuk*. A first crop, starchy variety originally from the Tungkoon district and later grown at the Kwangtung Agricultural Experiment Station, Canton. It has been growing at the Canton Christian College for the last five years. The growing season is 121 days, and the average yield per acre is 2,290 pounds.

69181. No. 574. *Koi leung tung koon paak kuk*. An improved (selected) strain of *Tung koon paak kuk*, No. 573 [No. 69180] also from the Tungkoon district and later grown at the Kwangtung Agricultural Experiment Station. It has been growing for the last five years at the Canton Christian College. The growing season is 121 days, and the average yield per acre is 2,660 pounds. This is said to be the best first-crop variety from the point of quality and yield.

69182. No. 575. *Yung uen chim kuk*. A first crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing for the last five years at the Canton Christian College. The growing season is 113 days, and the average yield per acre is 2,020 pounds.

69183. No. 576. *Yung uen tsuen chim kuk*. A first crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for five years. The growing season is 113 days, and the average yield per acre is 1,900 pounds.

69184. No. 577. *Fa lo chik kuk*. A first-crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for the last five years. The growing season is 122 days, and the average yield per acre is 2,180 pounds.

69171 to 69227—Continued.

69185. No. 578. *Siu koo chim kuk*. A first-crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for the last five years. The growing season is 122 days, and the average yield per acre is 2,130 pounds.

69186. No. 579. *Ka ying tso kuk*. A first-crop, starchy variety originally from Kaying and later grown at the Kwangtung Agricultural Experiment Station, Canton. It has been grown for the last five years at the Canton Christian College. The growing season is 118 days, and the average yield per acre is 1,960 pounds.

69187. No. 580. *Ngan chim kuk*. A first-crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been grown for the last five years at the Canton Christian College. The growing season is 123 days, and the average yield per acre is 1,640 pounds. While the average yield of this variety is very low, it is highly esteemed for its splendid quality.

69188. No. 581. *Tai ip chim kuk*. A first-crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been grown for the last five years at the Canton Christian College. The growing season is 123 days, and the average yield per acre is 2,020 pounds.

69189. No. 582. *Kai chau shan kuk*. A first-crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for five years. The growing season is 118 days, and the average yield per acre is 2,030 pounds.

69190. No. 583. *On naam kong kuk*. A first-crop, starchy variety, introduced from Annam by the Kwangtung Agricultural Experiment Station, whence it was obtained by the Canton Christian College five years ago. The growing season is 121 days, and the average yield per acre is 2,590 pounds.

69191. No. 584. *Kong sai tso kuk*. A first-crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for five years. The growing season is 120 days, and the average yield per acre is 1,815 pounds.

69192. No. 585. *San hing paak kuk*. A first-crop, starchy variety originally from Poonue district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 2,395 pounds.

69193. No. 586. *Paak kuk tsai*. A first-crop, starchy variety, originally from Poonue district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 2,390 pounds.

69171 to 69227—Continued.

69194. No. 587. *Luk shap yau tso kuk*. A first-crop, starchy variety, originally from Poonue district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 106 days, and the yield per acre is 2,060 pounds.

69195. No. 588. *Oo ip to kuk*. A first-crop, starchy variety, originally from Swatow, which has been growing at the Canton Christian College for the last year. The growing season is 106 days, and the yield per acre is 1,265 pounds.

69196. No. 589. *Tse koo tuen*. A first-crop, starchy variety, originally from Wanfaou district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 2,670 pounds.

69197. No. 590. *Ma mei tsai kuk*. A first-crop, starchy variety, originally from Wanfaou district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 2,215 pounds.

69198. No. 591. *San tsim kuk*. A first-crop, starchy variety, originally from Tsangsheng district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 2,420 pounds.

69199. No. 592. *Ha chi paak kuk*. A first-crop, starchy variety, originally from Tsangsheng district, Kwangtung, which has been growing for the last year at the Canton Christian College. The growing season is 106 days, and the yield per acre is 2,000 pounds. The Chinese name of this variety is that of the season in which it ripens.

69200. No. 593. *Ai keuk kuk shap yat tso kuk*. A first-crop, starchy variety, originally from Tungkoon, Kwangtung, which has been growing for the last year at the Canton Christian College. The growing season is 120 days, and the yield per acre is 790 pounds.

69201. No. 594. *Tso hing heung noh*. A first-crop, glutinous variety, conspicuous for its red-brown husks, originally from Tungkoon, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 1,760 pounds.

69202. No. 595. *Poon us san hing paak*. A first-crop, starchy variety originally from Poonue district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 2,325 pounds.

69203. No. 596. *Kam fung suet kuk*. A first-crop, starchy variety originally from Poonue district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 2,440 pounds.

69171 to 69227—Continued.

69204. No. 597. *Kam shan tsim kuk*. A first-crop, starchy variety originally from Tungkoon, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 2,260 pounds.

69205. No. 598. *Tso kaang paak kuk*. A first-crop, starchy variety originally from the Lin district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 2,590 pounds.

69206. No. 599. *Hung kuk*. A first-crop variety named "red" because of its red-brown husks; originally from Lin district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 119 days, and the yield per acre is 2,625 pounds.

69207. No. 600. *Hung nga tso kuk*. An early, starchy variety of the first-crop group, originally from Poonue district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 118 days, and the yield per acre is 2,360 pounds.

69208. No. 601. *Oo ip to kuk*. A first-crop, starchy variety originally from Omfau, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days.

69209. No. 602. *Hung kuk*. A bearded red-grained, dark-brown husked, starchy variety of the first-crop group, originally from Hoppo, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 118 days.

69210. No. 603. *Tso shiu oo uk kuk*. A very early, first-crop, starchy variety originally from Toishaan, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 106 days, and the yield per acre is 1,415 pounds.

69211. No. 604. *Chi shui kuk*. A first-crop, starchy variety originally from Toishaan, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 3,060 pounds.

69212. No. 605. *Paak mai tsai*. A first-crop, starchy variety originally from Toishaan, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days.

69213. No. 606. *Lok cheung tso kuk*. A first-crop, starchy variety originally from Lokcheung, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 106 days, and the yield per acre is 2,355 pounds.

69171 to 69227—Continued.

69214. No. 607. *Ka hing tso kuk*. A first-crop, starchy variety originally from Ngwa, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 120 days, and the yield per acre is 3,060 pounds.

69215. No. 608. *Lok cheung hon woh*. A first-crop, starchy variety of upland rice originally from Lokcheung, Kwangtung, which has been growing for the last year at the Canton Christian College. The growing season is 110 days, and the yield per acre is 1,475 pounds.

69216. No. 609. *Po tei paak kuk*. A first-crop, starchy variety originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing for the last five years at the Canton Christian College. This is the most highly esteemed variety among this group of upland rices. The growing season is 110 days, and the yield per acre is 2,390 pounds.

69217. No. 610. *Po tei dhik kuk*. A first-crop, starchy variety of upland rice, originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing at the Canton Christian College for the last five years. The growing season is 110 days, and the yield per acre is 2,345 pounds.

69218. No. 611. *Chik kuk*. A first-crop, starchy variety of upland rice, originally from Shiuhing, Kwangtung, which has been growing for the last year at the Canton Christian College. The growing season is 110 days, and the yield per acre is 3,935 pounds.

69219. No. 612. *Ko chi to kuk*. A first-crop, starchy variety of upland rice, originally from Swatow, Kwangtung, which has been growing for the last year at the Canton Christian College. The growing season is 110 days, and the yield per acre is 1,835 pounds.

69220. No. 613. *Hin pei kuk*. A first-crop, starchy variety of upland rice, originally from Tsangsheng, Kwangtung, which has been growing for the last year at the Canton Christian College. The growing season is 110 days, and the yield per acre is 1,850 pounds.

69221. No. 614. *Kai na poh kuk*. A first-crop, starchy variety of upland rice, originally from Tsangsheng, Kwangtung, which has been growing for the last year at the Canton Christian College. The growing season is 110 days, and the yield per acre is 2,220 pounds.

69222. No. 615. *On naam kaang kuk*. A first-crop, starchy variety of upland rice, originally from the Kwangtung Agricultural Experiment Station, Canton, which has been growing for the last year at the Canton Christian College. The growing season is 110 days, and the yield per acre is 1,140 pounds.

69171 to 69227—Continued.

69223. No. 616. *Hon woh*. A first-crop starchy variety of upland rice, originally from Tsangsheng, Kwangtung, which has been growing for the last year at the Canton Christian College. The growing season is 110 days, and the yield per acre is 1,280 pounds.

69224. No. 617. *San tsim kuk*. A first-crop, starchy variety of upland rice, originally from Tsangsheng, Kwangtung. The growing season is 110 days, and the yield per acre is 1,680 pounds.

69225. No. 618. *Toi shaan hon woh*. A first-crop, starchy variety of upland rice from Toishaan, Kwangtung, which has been grown for the last year at the Canton Christian College. The growing season is 110 days, and the yield per acre is 1,325 pounds.

69226. No. 619. *Pa woh*. A first-crop starchy variety of upland rice from Ngwa, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 110 days, and the yield per acre is 1,835 pounds.

69227. *ROSA* sp. *Rosaceae*. **Rose.**

No. 564. *Kam ying lak*. A wild rose found widely distributed throughout Kwangtung Province in hedgerows, on uncultivated lands, and on mountain sides. The plant is a rank grower and does well even on the poorest soil. I have not observed it, however, above an altitude of a few hundred feet. The dark-green shiny foliage is unusually fine, being beautifully clean and free from disease and insect injury. The single pure white flowers with yellow anthers are very large, about 9 centimeters in diameter, and are produced abundantly. I measured one flower last year which was 11 centimeters in diameter.

69228 and 69229. *PRUNUS* spp. *Amygdalaceae*. **Japanese flowering cherry.**

From Yokohama, Japan. Seedlings purchased from the Yokohama Nursery Co. Received March, 1925. Numbered December, 1926.

69228. *PRUNUS SERRULATA* Lindl.

Mazakura. This is a low, comparatively short-lived, much-branched tree with small single white or pinkish flowers, sparingly produced. It is the usual stock on which Japanese nurserymen graft the better varieties of Japanese flowering cherries and is said to root readily, in Japan, from hardwood cuttings planted in March.

69229. *PRUNUS SERRULATA SPONTANEA* (Maxim.) Wilson.

Yamasakura. A native Japanese cherry, common on mountain sides from the extreme southern part of Japan to about the central portion. It becomes a tree 80 feet high, of spreading habit, with single pink flowers, and is of value chiefly because of its use as a stock for the better varieties of flowering cherries.

For previous introduction see No. 67963.

69230 to 69353.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry, through D. McLorn, Postal Commissioner, Harbin. Received November, 1926.

69230 to 69288. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). **Poaceae.**
Common wheat.

Locally grown seeds.

69230. No. 6931. From Angangki or Tsitsikar. September, 1926.

69231. No. 6935. From Lanhspai, Heilungkiang Province. September, 1926.

69232. No. 6939. From Wuchiatzu, Kirin Province, September, 1926.

69233. No. 6943. From Fenghuangliang. September, 1926.

69234. No. 6947. From Tuchiatzu, Kirin Province. September, 1926.

69235. No. 6951. From Chaotung. September, 1926.

69236. No. 6955. From Pinhsien. September, 1926.

69237. No. 6959. From Tungpei. September, 1926.

69238. No. 6963. From Tunghsingchen, Heilungkiang Province. September, 1926.

69239. No. 6957. From Hsintien, Kirin Province. September, 1926.

69240. No. 6971. From Yushen. September, 1926.

69241. No. 6975. From Shitouchengtzu. September, 1926.

69242. No. 6979. From Wangchitun. September, 1926.

69243. No. 6983. From Huachuan. September, 1926.

69244. No. 6987. From Tachen. September, 1926.

69245. No. 6991. From Changchun. September, 1926.

69246. No. 6993. From Wayun. September 17, 1926.

69247. No. 6997. From Chiehhochen. September, 1926.

69248. No. 7001. From Hsiaoholung. September 18, 1926.

69249. No. 7005. From Ssutaitzu, Kirin Province. September, 1926.

69250. No. 7009. From Takushan, Kirin Province. September 9, 1926.

69251. No. 7013. From Hailun. September 14, 1926.

69252. No. 7017. From Tifang. September 20, 1926.

69253. No. 7021. From Hsichengchen, Heilungkiang Province. September 11, 1926.

69254. No. 7025. From Pingyangchen, Kirin Province. September, 1926.

69255. No. 7029. From Shuanghochen, Kirin Province. September 11, 1926.

69256. No. 7033. From Hulan. September 7, 1926.

69230 to 69353—Continued.

69257. No. 7037. From Chiachikau, Kirin Province. September 14, 1926.
69258. No. 7041. From Holung. September, 1926.
69259. No. 7045. From Tsitsikar. September, 1926.
69260. No. 7049. From Huatien. September 7, 1926.
69261. No. 7053. From Hokang, Heilungkiang Province. September 7, 1926.
69262. No. 7057. From Teyuanheng. September, 1926.
69263. No. 7061. From Chingsheng. September 18, 1926.
69264. No. 7065. From Taipingchuan. September, 1926.
69265. No. 7069. From Tungpin. September 10, 1926.
69266. No. 7073. From Hsiyingcheng-tzu. September, 1926.
69267. No. 7077. From Keloer. September 9, 1926.
69268. No. 7081. From Tawatun, Kirin Province. September 10, 1926.
69269. No. 7084. From Tehuei. September 8, 1926.
69270. No. 7088. From Shuangcheng. September 9, 1926.
69271. No. 6783. From Mushihho, Kirin Province. September 30, 1926.
69272. No. 6787. From Ssuchia-tzu, Kirin Province.
69273. No. 6791. From Fuyuhien, Kirin Province. September 30, 1926.
69274. No. 6795. From Shulanpaichitun, Kirin Province. September 30, 1926.
69275. No. 6799. From Wuchangshu, September 30, 1926.
69276. No. 6803. From Ahcheng. September 30, 1926.
69277. No. 6807. From Hsiangyangpao, Kirin Province. September 30, 1926.
69278. No. 6811. From Wangching. September 30, 1926.
69279. No. 6815. From Ching kang. September 30, 1926.
69280. No. 6819. From Kirin, Kirin Province. September 30, 1926.
69281. No. 6825. From Mahaochilin. September 30, 1926.
69282. No. 6829. From Chiamussu. September 18, 1926.
69283. No. 6832. From Hailar. October 1, 1926.
69284. No. 6836. From Mishan. September 10, 1926.
69285. No. 6840. From Shulan. September, 1926.
69286. No. 6844. From Kuanmashan. September, 1926.
69287. No. 6848. From Lungchingtsun. September, 1926.
69288. No. 6851. From Tatzuchin. September, 1926.

69230 to 69353—Continued.

69289. HORDEUM VULGARE PALLIDUM Seringe. Poaceae. Barley.
- No. 8208. From Pokutu.
- 69290 to 69353. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.
- Locally grown seeds collected in September, 1926.
69290. No. 6855. From Chaohuhsiehtang, Heilungkiang Province.
69291. No. 6859. From Chungsingchen, Heilungkiang Province.
69292. No. 6863. From Wukeshu, Kirin Province.
69293. No. 6867. From Bachitieh.
69294. No. 6871. From Hsinlichenshulan, Kirin Province.
69295. No. 6878. From Tangyuang.
69296. No. 6881. From Wangtechuching-tzu.
69297. No. 6885. From Chungaitsun.
69298. No. 6889. From Suifenho.
69299. No. 6893. From Lungchingtsun, Kirin Province.
69300. No. 6897. From Yakeshih, Heilungkiang Province.
69301. No. 6901. From Fulairki.
69302. No. 6905. From Bayen.
69303. No. 6909. From Tunhuahsien.
69304. No. 6913. From Chenghsingchiao.
69305. No. 6917. From Chihsienchen, Kirin Province.
69306. No. 6921. From Hailin.
69307. No. 6924. From Jalantun.
69308. No. 6927. From Shengpingchen, Heilungkiang Province.
69309. No. 7097. From Yungtsengyuan, Kirin Province.
69310. No. 7101. From Mapai.
69311. No. 7105. From Shanghowan, Kirin Province.
69312. No. 7109. From Hsiaosanchakou, Kirin Province.
69313. No. 7113. From Hsiaoshuangchingpu, Kirin Province.
69314. No. 7117. From Chaochou.
69315. No. 7121. From Taiaichl.
69316. No. 7125. From Chaoyangshan.
69317. No. 7129. From Ningkuta.
69318. No. 7133. From Hsingjenchen, Heilungkiang Province.
69319. No. 7137. From Hsisaoching-tzu, Kirin Province.
69320. No. 7142. From Tienpaoshan, Kirin Province.
69321. No. 7146. From Hsingnungchen, Heilungkiang Province.
69322. No. 7150. From Naho.
69323. No. 7154. From Kungpeng-tzu.
69324. No. 7157. From Nananchen, Heilungkiang Province.

69230 to 69353—Continued.

69325. No. 7161. From Keertarhsi, Heilungkiang Province, a very cold region where the farmers plant only wheat, barley, oats, and millet.
69326. No. 7165. From Tiehshanpo.
69327. No. 7169. From Taolaichao.
69328. No. 7173. From Tungchialun, Kirin Province.
69329. No. 7177. From Mintzushihching, Heilungkiang Province.
69330. No. 7181. From Hushulho.
69331. No. 7185. From Tatientzu.
69332. No. 7189. From Ertaokou.
69333. No. 7193. From Heilungkiang Province.
69334. No. 7196. From Taputzuhakou, Kirin Province.
69335. No. 7199. From Nientzushan, Heilungkiang Province.
69336. No. 7203. From Ahcheng.
69337. No. 7207. From Taweitzukou, Kirin Province.
69338. No. 7211. From Hengtaohotzu, Kirin Province.
69339. No. 7215. From Tulungchuan, Kirin Province.
69340. No. 7219. From Paochiakou, Kirin Province.
69341. No. 7223. From Shanhotun.
69342. No. 7227. From Tapahao, Kirin Province.
69343. No. 7231. From Ningnienchan, Heilungkiang Province.
69344. No. 7235. From Psaochiao, Kirin Province.
69345. No. 7239. From Panshihhsien.
69346. No. 7243. From Paoching.
69347. No. 7247. From Nanyangtsun.
69348. No. 7251. From Nantzuchengying, Kirin Province.
69349. No. 7255. From Shahoyen, Kirin Province.
69350. No. 7259. From Kuanti, Kirin Province.
69351. No. 7263. From Chichachae, Kirin Province.
69352. No. 7274. From Wengchaengchiehtzu, Kirin Province.
69353. No. 7278. From Minchiatun, Kirin Province.

69354. SACCHARUM SPONTANEUM L. Poaceae. Grass.

From Santiago de las Vegas, Cuba. Plants presented by Gonzalo M. Fortun, Director, Estación Experimental Agronómica, through E. W. Brandes, Bureau of Plant Industry. Received November 22, 1926.

An ornamental tropical grass, with silvery panicles, which is related to the sugar cane.

For previous introduction see No. 55668.

69355 to 69357.

From Stockholm, Sweden. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received November 15, 1926.

69355. CORNUS SUECICA L. Cornaceae.

No. 924. Stockholm Botanic Gardens. July, 1926. A dwarf dogwood resembling *Cornus canadensis*. The beautiful white bracts make it very attractive.

69356. EREMURUS HIMALAICUS Baker. Liliaceae.

No. 923. Stockholm Botanic Gardens. November, 1926. A tall handsome bulbous plant, 3 to 6 feet high, with showy white flowers, native to the Himalayas.

For previous introduction see No. 43467.

69357. MEDICAGO CARSTIENSIS Wulf. Fabaceae.

No. 922. Stockholm Botanic Gardens. November, 1926. A herbaceous perennial with yellow flowers. Native to central Europe.

For previous introduction see No. 35156.

69358. LILIUM PHILIPPINENSE Baker. Liliaceae. Benguet lily.

From Tunbridge Wells, England. Seeds purchased from E. Wallace & Co. Received November 18, 1926.

Variety *formosanum*. A Philippine lily with a smooth slender green stem 1 or 2 feet high and 30 to 40 horizontal leaves 3 to 5 inches long. The fragrant flowers, usually solitary, are 4 to 6 inches wide and pure waxy white with yellow anthers.

69359 to 69361.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 11, 1926.

69359. ACTINIDIA ARGUTA (Sieb. and Zucc.) Planch. Dilleniaceae.

No. 6770. Obtained through the Manchurian Research Society, at Shitoukhetsy, Chinese Eastern Railway. September 19, 1926. A high-climbing hardy shrub, native to northeastern Asia, with broadly oval leaves about 4 inches long, white flowers about three-fourths of an inch across, and sweet edible greenish yellow fruits about an inch long.

For previous introduction see No. 65484.

69360. TILIA AMURENSIS Rupr. Tiliaceae. Linden.

No. 6769. Ertsendiantsy, September 27, 1926. A small-leaved linden, excellent as a bee-pasture tree. Honey made from it is considered here to be the best.

For previous introduction see No. 65551.

69361. TRILLIUM sp. Convallariaceae.

No. 6776. Obtained through the Manchurian Research Society in their forest concession at Shitoukhetsy. September 29, 1926. A hardy perennial, native to Manchuria, of possible value as an ornamental.

69362 to 69364. PRUNUS SERRULATA
Lindl. Amygdalaceae.**Japanese flowering cherry.**

From North Chevy Chase, Md. Bud wood obtained by Paul Russell, Bureau of Plant Industry. Received July and September, 1925. Numbered October, 1926.

From "In the Woods," residence of David Fairchild.

69362. Tree 122. *Sumizone*. Tree upright in habit, about 18 feet high; flowers white flushed with pink, single or nearly so, about $1\frac{1}{2}$ inches across, fragrant, short-stemmed, usually in pairs, blooming about midseason. A pleasing variety.

69363. Tree 114. *Kwanzan*. Tree upright-spreading in habit, becoming about 25 feet high; bark dark brownish gray; young foliage bronze green; buds red; flowers deep pink double, nearly 2 inches across, in clusters of two to five, blooming late. This is considered by some horticulturists to be the finest of the flowering cherries.

69364. Tree 107. *Ichijo*. Tree of spreading habit, about 18 feet high; bark grayish; flowers pink, becoming almost white with age; semidouble to double, about $1\frac{3}{4}$ inches across, in clusters of three, blooming about midseason. A variety which ranks with the best of the flowering cherries.

69365. PRUNUS SERRULATA Lindl.
Amygdalaceae.**Japanese flowering cherry.**

From Potomac Park, Washington, D. C. Bud wood obtained by Paul Russell, Bureau of Plant Industry. Received September 23, 1925. Numbered October, 1926.

Tree 465. *Kwanzan*.

For previous introduction and description see No. 69363.

69366. ACACIA sp. Mimosaceae.

From Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 14, 1926. Numbered October, 1926.

No. 502. Sibolangit Botanic Gardens. February 25, 1926. A tree which bears thick, curiously shaped pods which are constricted between the seeds.

69367 to 69371.

From Florida. Trees growing at the Plant Introduction Garden, Miami. Numbered October, 1926.

69367. MANGIFERA INDICA L. Anacardiaceae. **Mango.**

Seedling of the Julie mango, No. 26125, growing under P. I. G. No. 1898. The fruits are like the parent in being decidedly flat, but differ in being less irregular. They are more nearly triangular, the ventral shoulder being very pronounced, and are about $3\frac{1}{2}$ inches long on the stem axis and $2\frac{1}{2}$ by 3 inches in diameter at right angles to the stem axis. The flesh is of excellent flavor, with very little fiber, and is superior to that of the

69367 to 69371—Continued.

Julie. The ripening season at Miami is from June 8 to July 10. The tree is 15 feet high in section F, near the walk.

69368 to 69371. PERSEA AMERICANA Mill.
Lauraceae. **Avocado.**

69368. Seedling of the Winslow avocado, No. 10978, growing under P. I. G. No. 1892. Fruits of medium size, about 4 inches long, slightly oblique; skin blackish purple, hard, separating easily from the flesh; flesh yellow, of buttery consistency, varying from one-half to three-fourths of an inch in thickness, with little or no fiber and of excellent quality; cavity large; seed about $2\frac{1}{2}$ inches long. Ripens at Miami from late December to February. Tree 25 feet high, of compact habit, in section E.

69369. Seedling of the Colla avocado, No. 19058, growing under P. I. G. No. 1893. Fruit slightly oblique, about 4 inches long; skin dark green, slightly roughened; flesh yellow, of buttery consistency, varying from one-half to three-fourths of an inch in thickness, of excellent texture with little or no fiber; flavor good but not equal to that of the Collinson or Winslowson; cavity very large; seed about $2\frac{1}{2}$ inches long. Ripens at Miami in December. Tree about 25 feet high, spreading, with light-colored foliage in summer, in section E.

69370. Seedling of the Collins avocado, No. 19080, growing under P. I. G. No. 1891. Fruits large, about $5\frac{1}{2}$ inches long, pear-shaped, regular; skin light yellowish green, comparatively smooth with light-colored dots over most of the surface, medium thin, separating easily from the flesh; flesh creamy yellow, shading to light green near the skin, of soft buttery consistency with little or no fiber, of good texture and excellent quality, varying in thickness from three-fourths of an inch at the side to $1\frac{1}{2}$ inches at the stem end, cavity medium large. Tree in section F.

69371. Seedling of the Collins avocado, No. 19080, growing under P. I. G. No. 1902. Fruits large, pear-shaped, about 5 inches long; skin light green with slight undulations over entire surface, hard and easily separating from flesh; flesh rich creamy yellow, shading to dark green near skin, with little or no fiber and of a rich buttery consistency, of excellent flavor; seed cavity about $2\frac{1}{2}$ inches long. Ripens at Miami in January. Tree in section F. This avocado has a comparatively large amount of flesh and is equal or superior to such varieties as the Collinson and the Winslowson. It is worthy of extended propagation.

69372. DIOSPYROS KAKI L. f. Diospyraceae. **Kaki.**

From Nanking, China. Seeds purchased through J. H. Reisner, College of Agriculture and Forestry, University of Nanking. Received December 27, 1926.

Seeds of a wild Japanese persimmon from near Ichang, Hupeh, China.

69373. POSOQUERIA LATIFOLIA (Rudge)
Roem. and Schult. Rubiaceae.

From Summit, Canal Zone. Seeds presented by Holger Johansen, agronomist, Plant Introduction Garden. Received December 29, 1926.

A shrub, sometimes 25 feet high, native to the forests of northern Bahia, Brazil, where it grows in dry sandy soil with but little water. It flowers in February and its succulent fruits, which ripen in July, are sold in the native markets for making marmalade and jelly. The greatest value of the shrub, however, lies in the finely grooved rigid branches, which are highly prized for walking sticks. These are exported to England under the name of "Brazilian oak."

For previous introduction see No. 55921.

69374. GOSSYPIMUM STOCKSII Masters.
Malvaceae. Cotton.

From Sind, Karachi, India. Seeds presented by the Deputy Director of Agriculture, Sind. Received December 23, 1926.

A tropical shrub with small yellow flowers, which grows in rocky limestone soil on the western coast of India.

69375. PITHECOLOBIUM sp. Mimosa-
ceae.

From Summit, Canal Zone. Seeds presented by Holger Johansen, agronomist, Plant Introduction Garden. Received December 30, 1926.

A tropical American leguminous tree; to be grown to ascertain its horticultural value.

69376. COTONEASTER ROTUNDIFOLIA
LANATA C. Schneid. Malaceae.

From Chico, Calif. Plant growing at the Plant Introduction Garden. Numbered December, 1926.

This plant has been grown at the Chico garden, at the left side of the office steps, under No. 32935, *Cotoneaster microphylla thymifolia*, but is now identified as *C. rotundifolia lanata*. It is a low shrub, with elliptic or elliptic-oblong leaves, dark green above and white tomentose beneath, and bright-red berries about one-third of an inch in diameter. Native to the Himalayas.

69377 and 69378. CORYLUS MAXIMA
Mill. Betulaceae. Filbert.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received December 20, 1926.

European filbert varieties.

69377. Variety *N. Avelina de Provence*.

69378. Variety *N. Avelina de Sicile*.

69379. DEQUELIA TRIFOLIATA (Lour.)
Taub. (*Derris uliginosa* Benth.).
Fabaceae.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture. Received December 22, 1926.

A large, handsome, leguminous woody climber, native to Burma and the East Indies. The compound leaves are a foot or more long, with 9 to 13 leaflets, and the bright-red flowers, three-fourths of an inch long, are in lax racemes. The roots yield

an effective insecticide and are used as a fish poison.

For previous introduction see No. 64602.

69380 and 69381. SAXIFRAGA CRASSI-
FOLIA L. Saxifragaceae.

Leather saxifrage.

From Leningrad, Russia. Roots and seeds presented by A. Kol, chief of the bureau of introduction, Institute of Applied Botany. Received December 30, 1926.

A hardy herbaceous perennial, native to Siberia, with a woody rhizome and dense panicles of purplish flowers. The roots are said to be of value as an antiseptic.

69380. Roots.

69381. Seeds.

69382. SACCHARUM OFFICINARUM L. Po-
aceae. Sugar cane.

From Muzaffarpur, Bengal, India. Cuttings obtained from Noel Deerr, superintendent of factories, through E. W. Brandes, Bureau of Plant Industry. Received December 29, 1926.

Indian-grown sugar cane.

69383 and 69384.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received December 22, 1926.

69383. *PSEUDOLARIX AMABILIS* (Nelson) Rehder (*P. kaempferi* Gordon). Pinaceae.

No. 868. *Kam tsung*. Seeds from a large tree growing at Chinhwasan, Anhwei, November 9, 1926. An excellent ornamental as well as a valuable timber tree.

69384. *ARUNDINARIA BREVIPANICULATA* Hand.-Mzt. Poaceae. Bamboo.

No. 869. Chenhwasan. November 4, 1926. *Liu chin chuk*. This species flowered during 1923 and 1924 and produced an abundance of seeds which were gathered by the natives and used as food.

69385. DIOSCOREA ALATA L. Dioscorea-
ceae. Greater yam.

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, horticulturist, Agricultural Experiment Station. Received March 17, 1926. Numbered October, 1926.

The Ceylon purple yam produces a roundish tuber which in Porto Rico sometimes reaches a weight of 5 pounds. The color of the flesh is deep purple, most of which is retained in cooking, and the quality is excellent. The variety does not yield as heavily as many others, and the shape of the tubers makes it difficult to utilize to advantage.

For previous introduction see No. 54900.

69386 to 69396. TRITICUM AESTIVUM L.
(*T. vulgare* Vill.). Poaceae.

Common wheat.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry, through the cooperation of D. McLorn, Postal Commissioner, Harbin. Received December, 1926.

69386. No. 7298. From Hsiachintai. September 14, 1926.

69386 to 69396—Continued.

69387. No. 7384. From Mishatzu, Kirin Province. September 11, 1926.

69388. No. 7388. From Yingchengtzu, Kirin Province. September 5, 1926.

69389. No. 8141. From Harbin. October 20, 1926.

69390. No. 8209. From Harbin. October 21, 1926.

69391. No. 8226. From Harbin. October 21, 1926.

69392. No. 8288. From Harbin. October 22, 1926.

69393. No. 8307. From Harbin. October 22, 1926.

69394. No. 8448. October 13, 1926. *Bulaohsiefka* No. 61. Obtained from the experimental field of the Chinese Eastern Railway land department.

69395. No. 8565. From Harbin. October 26, 1926.

69396. No. 8612. From Harbin. November 4, 1926.

69397. *CAESALPINIA CORIARIA* (Jacq.) Willd. *Caesalpinaceae*. *Divi-divi*.

From Haina, Dominican Republic. Seeds presented by Dr. R. Ciferri, Director, Estación Agronómica de Haina. Received December 30, 1926.

For previous introduction and description see No. 69045.

69398 to 69535.

From Manchuria. Seeds and bulbs obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November and December, 1926.

Nos. 69398 and 69399 were received through the cooperation of D. McLorn, Postal Commissioner, Harbin.

69398. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). *Fabaceae*.
Soy bean.

No. 8380. From Hulanchichang, Kirin Province.

69399. *PHASEOLUS AUREUS* Roxb. *Fabaceae*.
Mung bean.

No. 6381. From Hulanchichang, Kirin Province.

Nos. 69400 to 69403 were received through the Manchurian Research Society, Harbin.

69400. *ACANTHOPANAX SENTICOSUM* (Rupr.) Harms. *Araliaceae*.

No. 6761. From the vicinity of Ertse-diantzsy. September 28, 1926.

For previous introduction see No. 65907.

69401. *ACER TEGMENTOSUM* Maxim. *Aceraceae*.
Maple.

No. 6739. Vicinity of the fourteenth block in the forest concession of the Chinese Eastern Railway, Shitoukhetsy. September 14, 1926.

For previous introduction see No. 65481.

69402. *CIRCAEA CORDATA* Royle. *Onagraceae*.

69398 to 69535—Continued.

No. 6775. Vicinity of Shitoukhetsy in the forest concession of the Chinese Eastern Railway.

69403. *CORYLUS HETEROPHYLLA* Fisch. *Betulaceae*.
Hazel.

No. 6746. From Ertse-diantzsy. September 25, 1926.

For previous introduction see No. 65622.

69404 to 69444. *HORDEUM VULGARE PAL-LIDUM* Seringe. *Poaceae*.
Six-rowed barley.

Locally grown seed, collected in September, 1926, and obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.

69404. No. 6929. From Angangki or Tsitsikar.

69405. No. 6933. From Lanhsipei, Heilungkiang Province.

69406. No. 6937. From Wuchiatzu, Kirin Province.

69407. No. 6941. From Fenghuangling.

69408. No. 6945. From Tuchiatzu, Kirin Province.

69409. No. 6949. From Chaotung.

69410. No. 6953. From Pinhsien.

69411. No. 6957. From Tungpei.

69412. No. 6961. From Tunghsingchen, Heilungkiang Province.

69413. No. 6965. From Hsintien, Kirin Province.

69414. No. 6969. From Yushen.

69415. No. 6973. From Shihtouching-tzu.

69416. No. 6977. From Wangchitun.

69417. No. 6981. From Huachuan.

69418. No. 6985. From Tachen.

69419. No. 6989. From Changchun.

69420. No. 6992. From Wayun.

69421. No. 6995. From Chiehhochen.

69422. No. 6999. From Hsiaoholung, Kirin Province.

69423. No. 7003. From Ssutaitzu, Kirin Province.

69424. No. 7007. From Takushan, Kirin Province.

69425. No. 7011. From Hallun.

69426. No. 7015. From Tifang.

69427. No. 7019. From Hsiehchengchen, Heilungkiang Province.

69428. No. 7023. From Pingyangchin, Kirin Province.

69429. No. 7027. From Shuanghochen, Kirin Province.

69430. No. 7031. From Hulan.

69431. No. 7035. From Chiachikou, Kirin Province.

69432. No. 7039. From Holung.

69433. No. 7043. From Tsitsikar.

69434. No. 7047. From Huatien.

69398 to 69535—Continued.

69435. No. 7051. From Hokang, Heilungkiang Province.
 69436. No. 7055. From Teyuanheng.
 69437. No. 7059. From Chingcheng.
 69438. No. 7063. From Taipingchuan.
 69439. No. 7067. From Tungpin.
 69440. No. 7071. From Hsiyingcheng-tzu.
 69441. No. 7075. From Keloer.
 69442. No. 7079. From Tawatun, Kirin Province.
 69443. No. 7083. From Tehuei.
 69444. No. 7086. From Shuangcheng.
 69445. IRIS sp. Iridaceae.

No. 6767. White River Valley. July 30, 1926. Plants found growing in a river bottom valley, but not in especially wet locations. The flowers are said to be purple.

69446. JUGLANS MANDSHURICA Maxim. Juglandaceae.

No. 6768. Harbin. September 28, 1926. A tree said to attain a height of 80 feet and a diameter of 40 inches and to live about 200 years. According to an analysis made at Harbin by P. M. Karwowurian, the kernels of this nut contain 52 per cent of fine yellowish drying oil.

For previous introduction see No. 65527.

69447. LAPORTEA BULBIFERA Wedd. Urticaceae.

No. 6777. In the forest concession of the Chinese Eastern Railway, near Shitoukhetzy. September 19, 1926. A herbaceous perennial with small air bulbs or tubers borne in the leaf axils.

69448 to 69450. LILIUM spp. Liliaceae. Lily.

69448. LILIUM AVENACEUM Fisch.

No. 6772. From Maershan, on the Chinese Eastern Railway. August, 1926.

69449. LILIUM DAURICUM Ker. Candlestick lily.

No. 6771. From Maefoun, on the Chinese Eastern Railway. August, 1926.

For previous introduction see No. 65281.

69450. LILIUM sp.

No. 6778. From Ertsendiantzy. September 29, 1926.

69451 to 69490. PHASEOLUS AUREUS Roxb. Fabaceae. Mung bean.

Locally grown seed collected in October, 1926, through the cooperation of D. McLorn, Postal Commissioner, Harbin.

69451. No. 6928. From Anganki or Tsitsikar.

69452. No. 6932. From Sanhochengco, Heilungkiang Province.

69453. No. 6936. From Wuchaitze, Kirin Province.

69454. No. 6940. From Fenghuangling.

69398 to 69535—Continued.

69455. No. 6944. From Tuchiaotzu, Kirin Province.
 69456. No. 6948. From Chaotung.
 69457. No. 6952. From Pinhsien.
 69458. No. 6956. From Tungpei, Heilungkiang Province.
 69459. No. 6960. From Tungsingchen, Heilungkiang Province.
 69460. No. 6964. From Hsientien, Kirin Province.
 69461. No. 6968. From Yushen.
 69462. No. 6972. From Shihouching-tzu.
 69463. No. 6976. From Wangchitun, Kirin Province.
 69464. No. 6980. From Huachuan.
 69465. No. 6984. From Tachen.
 69466. No. 6888. From Changchun.
 69467. No. 6994. From Chiehhochen, Kirin Province.
 69468. No. 6998. From Hsiaoholung, Kirin Province.
 69469. No. 7002. From Ssutaitzu, Kirin Province.
 69470. No. 7006. From Takushan, Kirin Province.
 69471. No. 7010. From Hailun.
 69472. No. 7014. From Tifang.
 69473. No. 7018. From Hsichengchen, Heilungkiang Province.
 69474. No. 7022. From Shuanghochen, Kirin Province.
 69475. No. 7026. From Pingyangchen, Kirin Province.
 69476. No. 7030. From Hulan.
 69477. No. 7034. From Chiachikou, Kirin Province.
 69478. No. 7038. From Holung.
 69479. No. 7042. From Tsitsikar.
 69480. No. 7046. From Huatien.
 69481. No. 7050. From Hokang, Heilungkiang Province.
 69482. No. 7054. From Teyuanheng.
 69483. No. 7058. From Chingcheng.
 69484. No. 7062. From Taipingchuan.
 69485. No. 7066. From Tungpin.
 69486. No. 7070. From Hsiyingching-tzu. The sample contains yellow, brown, and green beans.
 69487. No. 7074. From Keloer.
 69488. No. 7078. From Tawatun, Kirin Province.
 69489. No. 7082. From Tehuei.
 69490. No. 7085. From Shuangcheng.
 69491 to 69493. PHASEOLUS VULGARIS L. Fabaceae. Common bean.
 Locally grown seed obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin, in September, 1926.
 69491. No. 6958. From Tungpei.

69398 to 69535—Continued.

69492. No. 7020. From Hsichengchen, Heilungkiang Province.

69493. No. 7076. From Keloer.

69494. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

No. 6766. September 29, 1926. A cultivated variety growing in Harbin.

69495. *PYRUS USSURIENSIS* Maxim. Malaceae.

No. 6773. A wild variety growing in the mountains near Ertsemdiantzy. September 29, 1926.

69496. *RUBIA CORDIFOLIA* L. Rubiaceae. Madder.

No. 6774. Obtained through the Manchurian Research Society in the forest concession of the Chinese Eastern Railway near Shitoukhetsy. September 29, 1926. The roots are said to yield a red dye.

For previous introduction see No. 49652.

69497 to 69533. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

Locally grown seed collected in September, 1926, through the cooperation of D. McLorn, Postal Commissioner, Harbin.

69497. No. 6930. From Angangki or Tsitsikar.

69498. No. 6934. From Lanhsipei, Heilungkiang Province.

69499. No. 6938. From Wuchiatzu, Kirin Province.

69500. No. 6942. From Fenghuangling.

69501. No. 6946. From Tuchiaotzu, Kirin Province.

69502. No. 6950. From Chaotung.

69503. No. 6954. From Pinhsien.

69504. No. 6962. From Tunghsingchen, Heilungkiang Province.

69505. No. 6966. From Hsintien, Kirin Province.

69506. No. 6970. From Yushen.

69507. No. 6974. From Shihtouching-tzu.

69508. No. 6978. From Wangchitun.

69509. No. 6982. From Huachun.

69510. No. 6986. From Tachen.

69511. No. 6990. From Changchun.

69512. No. 6996. From Chiehchen.

69513. No. 7000. From Hsiaoholung, Kirin Province.

69514. No. 7004. From Ssutaitzu, Kirin Province.

69515. No. 7008. From Takushan, Kirin Province.

69516. No. 7012. From Hallun.

69517. No. 7016. From Tifang.

69518. No. 7024. From Pingyangchen, Kirin Province.

69519. No. 7028. From Shuanghochien, Kirin Province.

69520. No. 7032. From Hulan.

69538 to 69535—Continued.

69521. No. 7036. From Chiachikou, Kirin Province.

69522. No. 7040. From Holung.

69523. No. 7044. From Tsitsikar.

69524. No. 7048. From Huatien.

69525. No. 7052. From Hokang, Heilungkiang Province.

69526. No. 7056. From Teyuanheng.

69527. No. 7060. From Chingcheng.

69528. No. 7064. From Taipingchuan.

69529. No. 7068. From Tungpin.

69530. No. 7072. From Hsiyingcheng-tzu.

69531. No. 7080. From Tawatun, Kirin Province.

69532. No. 7083a. From Rehuei.

69533. No. 7087. From Shuangcheng.

69534. *VICIA* sp. Fabaceae. Vetch. No. 6451. From Harbin. September 12, 1926. A purple vetch.

69535. *VITIS AMURENSIS* Rupr. Vitaceae. Amur grape.

No. 6744. A wild Manchurian grape, obtained through the Manchurian Research Society in the vicinity of Shitoukhetsy.

For previous introduction see No. 65960.

69536 to 69547.

From China. Scions and cuttings collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Numbered December, 1926.

69536. *CASTANEA MOLLISSIMA* Blume. Fagaceae. Chinese hairy chestnut.

No. 315. Shuisai, Lohkongtung. December 25, 1925. *Tao woh lut*. This variety is ready to harvest in July or early August, hence its name "early-rice chestnut." The usual harvest time for the other varieties of chestnut common here is September.

69537 to 69540. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

69537. No. 189. Near Fohtsuen, Lohkongtung. November 1, 1925. *Sha hok tsz*. A medium-sized subglobular, orange-yellow seedless variety. It is characterized by a layer of granular material just under the skin which gives a slight grating sound when cut, hence the name "sandy-shelled persimmon."

69538. No. 193. Taaishaan, Lohkongtung. October 30, 1926. *Taii yuk tsz*. A variety with large, subconical, yellow fruits which are ripened by the limewater method.

69539. No. 424. Taaichong. February 22, 1926. *Taii shui tsz*. The fruits of this variety are said to be very large and globular but somewhat squarish in cross section.

69540. No. 427. Pakshaan. February 26, 1926. *Taii tsz*.

69541. *DIOSPYROS* sp. Diospyraceae. Persimmon.

No. 354. From wild trees in Tung-tszhaang, Lungtaushaan. *Tung pei tsai*.

69536 to 69547—Continued.

This variety differs from other persimmons found in this vicinity in having inner layers of light-gray bark and dark-gray branchlets.

69542 to 69546. *PYRUS CALLERYANA* Decaisne. Malaceae. Pear.

69542. No. 203. Near Chukkouen, Loh-kongtung. October 31, 1925. *Taai leng tsoh sha lei*. A variety with very large rusty-colored fruits, which are one-sided globular in shape, with the large long stem inserted in a deep irregular depression. The fruits have rather astringent coarse flesh and are considered best when pickled in salted vinegar.

69543. No. 204. Near Chukkouen, Loh-kongtung. October 31, 1925. *Hung lei*. A red-fruited very sweet variety with little flavor, which is said to resemble No. 203 [No. 69542] in shape, but has a smaller stem.

69544. No. 205. Near Chukkouen, Loh-kongtung. October 31, 1925. *Taam shui sha lei*. A large yellow globular-fruited variety which is considered by the Chinese to be the best flavored and sweetest variety of the pears grown in this region. Most of the crop is consumed as fresh fruits.

69545. No. 207. Near Chukkouen, Loh-kongtung. October 31, 1925. *Taai tuk suet lei*. The fruits of this variety are said to be pear-shaped, yellow, with white flesh of excellent quality.

69546. No. 208. Near Chukkouen, Loh-kongtung. October 31, 1925. *Ye sam sha lei*. The fruits of this variety are said to be the smallest of any variety cultivated here. They are fine-grained, sweet, and of excellent texture. These fruits are used to make a drink called "ye sam chap," which is considered by the Chinese to have medicinal value. This drink is made by allowing the fruits to rot in covered jars for three years. The pulp is said to be entirely reduced by bacterial action and at the end of three years only a liquid remains.

69547. *ZIZIPHUS* sp. Rhamnaceae. Jujube.

No. 246. Cheungchow, Kwong sai. November 21, 1925. *Paak tso*. An especially small-seeded and prolific variety, considered here to be the best of the Chinese jujubes. It seems to be cultivated only on the silty soil of the flood plain of the West River, west of Tak-hing, which is annually inundated. The tree is deciduous, dropping its leaves in October and November, and is propagated here only by root sprouts which are taken up and transplanted during February or March. The fruits are prepared for consumption by slitting the skin and boiling them in a sugar solution after which they are dried in the sun. This product is called "mat tso," or honey dates.

69548 and 69549. *MALUS* spp. Malaceae. Crab apple.

From Manchuria. Scions collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 2, 1926. Numbered December, 1926.

69548 and 69549—Continued.

69548. *MALUS* sp.

No. 4722. Taluhua Temple, Kuangning. November 7, 1925. *Pin tze* (sour crab apple). A variety with red fruits, $1\frac{1}{2}$ to 2 inches in diameter, which ripens in September.

69549. *MALUS* sp.

No. 4725. Taluhua Temple, Kuangning. November 7, 1925. *Tai ping kuo* (peace-fruit crab apple). A small crab apple, half white and half red and 1 inch in diameter, which ripens early in August.

69550 to 69712.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry, through the cooperation of D. McLorn, Postal Commissioner, Harbin. Received November, 1926.

69550 to 69704. *HORDEUM VULGARE* PAL-LIDUM Seringe. Poaceae.

Six-rowed barley.

69550. No. 6781. From Mushihho, Kirin Province.

69551. No. 6785. From Ssuchatzu, Kirin Province.

69552. No. 6789. From Fuyuhshien, Kirin Province.

69553. No. 6793. From Shulanpaichitun, Kirin Province.

69554. No. 6797. From Wuchangchu.

69555. No. 6801. From Ahcheng.

69556. No. 6805. From Hsiangyang-chilin.

69557. No. 6809. From Wangching.

69558. No. 6813. From Chinglang.

69559. No. 6817. From Kirin, Kirin Province.

69560. No. 6823. From Mahaochilin.

69561. No. 6827. From Chiamussu.

69562. No. 6831. From Hallar.

69563. No. 6834. From Mishan.

69564. No. 6838. From Shulan.

69565. No. 6842. From Kuanmashan.

69566. No. 6846. From Lungchingsun.

69567. No. 6857. From Chunghsingchen, Heilungkiang Province.

69568. No. 6861. From Wukeshu, Kirin Province.

69569. No. 6865. From Bachitieh.

69570. No. 6869. From Hsinlichen-shenlan, Kirin Province.

69571. No. 6873. From Heiershu.

69572. No. 6876. From Tanguan.

69573. No. 6880. From Wangtechuching-tzu.

69574. No. 6883. From Chungaitsun.

69575. No. 6887. From Suifenho.

69576. No. 6891. From Lungshingsun, Kirin Province.

69577. No. 6895. From Yakeshih, Heilungkiang Province.

69578. No. 6899. From Fularki.

69550 to 69712—Continued.

69579. No. 6903. From Bayen.
 69580. No. 6907. From Tunhuahsien.
 69581. No. 6911. From Chenghsingchiao.
 69582. No. 6915. From Chihhsienchen, Kirin Province.
 69583. No. 6919. From Hailin.
 69584. No. 7095. From Yungtsingyuan, Kirin Province.
 69585. No. 7099. From Mapai.
 69586. No. 7103. From Shanghowan, Kirin Province.
 69587. No. 7107. From Hsiasanchakou, Kirin Province.
 69588. No. 7111. From Hsiao-shuang-chingpu, Kirin Province.
 69589. No. 7115. From Chaochou.
 69590. No. 7119. From Tailaichi.
 69591. No. 7123. From Chaoyangshan, Kirin Province.
 69592. No. 7127. From Ningkuta.
 69593. No. 7131. From Hsingjenchen, Heilungkiang Province.
 69594. No. 7135. From Hsiao-ching-tzu, Kirin Province.
 69595. No. 7140. From Tienpaoshan, Kirin Province.
 69596. No. 7144. From Hsingnungchen, Heilungkiang Province.
 69597. No. 7148. From Naho.
 69598. No. 7152. From Kungpeng-tzu.
 69599. No. 7156. From Nanching, Heilungkiang Province.
 69600. No. 7160. From Keertarhsi, Heilungkiang Province.
 69601. No. 7163. From Tiehshanpao.
 69602. No. 7167. From Taolaichao.
 69603. No. 7171. From Tungchialun, Kirin Province.
 69604. No. 7175. From Mintzushiching, Heilungkiang Province.
 69605. No. 7179. From Hushulibo.
 69606. No. 7183. From Tatientzu, Kirin Province.
 69607. No. 7187. From Ertakou.
 69608. No. 7191. From Tungchiang, Heilungkiang Province.
 69609. No. 7194. From Taputzuhokou, Kirin Province.
 69610. No. 7201. From Ahcheng.
 69611. No. 7205. From Taweitzukou, Kirin Province.
 69612. No. 7209. From Hengtaohotze, Kirin Province.
 69613. No. 7213. From Tulungchian, Kirin Province.
 69614. No. 7217. From Paochiakou, Kirin Province.
 69615. No. 7221. From Shanhotun.
 69616. No. 7225. From Tapahao, Kirin Province.
 69617. No. 7229. Ningnienchan, Heilungkiang Province.

69550 to 69712—Continued.

69618. No. 7233. From Lanpsaichiao, Kirin Province.
 69619. No. 7237. From Panshibhsien.
 69620. No. 7241. From Paoching.
 69621. No. 7245. From Nanyangtsun.
 69622. No. 7249. From Nantzuchengying, Kirin Province.
 69623. No. 7253. From Shaboyen, Kirin Province.
 69624. No. 7257. From Kuanti.
 69625. No. 7261. From Chichachae, Kirin Province.
 69626. No. 7272. From Wengchengchientzu, Kirin Province.
 69627. No. 7276. From Minchiatun, Kirin Province.
 69628. No. 7474. From Yimapaitzu, Kirin Province.
 69629. No. 7479. From Nunchiang.
 69630. No. 7483. From Yushunkou, Kirin Province.
 69631. No. 7487. From Shihchienping.
 69632. No. 7491. From Holung.
 69633. No. 7495. From Chingshanpu.
 69634. No. 7500. From Yunghsingchen, Heilungkiang Province.
 69635. No. 7506. From Mohochen, Kirin Province.
 69636. No. 7508. From Changshantun, Kirin Province.
 69637. No. 7512. From Hsiangchiaochen.
 69638. No. 7516. From Laochengchi, Heilungkiang Province.
 69639. No. 7520. From Mangnaichen, Heilungkiang Province.
 69640. No. 7524. From Hsiao-suifen.
 69641. No. 7529. From Hsiasantun.
 69642. No. 7531. From Chuchiacheng-tzu.
 69643. No. 7535. From Tachingtsyi, Kirin Province.
 69644. No. 7539. From Halahaicheng-tzu, Kirin Province.
 69645. No. 7543. From Nungan.
 69646. No. 7547. From Fangniukou.
 69647. No. 7551. From Imienpo.
 69648. No. 7556. From Hanchiatien, Kirin Province.
 69649. No. 7561. From Mengchiang.
 69650. No. 7565. From Shuangyungho.
 69651. No. 7569. From Laotoukou, Kirin Province.
 69652. No. 7575. From Peiyinbo.
 69653. No. 7579. From Tungkouchen, Kirin Province.
 69654. No. 7583. From Hengchengpu, Heilungkiang Province.
 69655. No. 7587. From Yungchingweitzu.
 69656. No. 7591. From Patahotzu, Kirin Province.

69550 to 69712—Continued.

69657. No. 7595. From Pachiatzu.
 69658. No. 7599. From Shuanghochén, Kirin Province.
 69659. No. 7601. From Shuanghochén, Kirin Province.
 69660. No. 7603. From Itung.
 69661. No. 7607. From Hsinglungtun.
 69662. No. 7966. From Chitamu, Kirin Province.
 69663. No. 7970. From Langchiashao-kuo, Kirin Province.
 69664. No. 7973. From Wuchiatzu.
 69665. No. 7978. From Wangkuei.
 69666. No. 7983. From Peiancheu, Heilungkiang Province.
 69667. No. 7986. From Sanhsing.
 69668. No. 7990. From Yinmahó, Kirin Province.
 69669. No. 7994. From Tiehlingho.
 69670. No. 8000. From Shih-tun.
 69671. No. 8001. From Huayuan.
 69672. No. 8008. From Pamientung, Kirin Province.
 69673. No. 8009. From Haihsingchen, Heilungkiang Province.
 69674. No. 8014. From Wuchiachan.
 69675. No. 8020. From Shuangfengchuan, Kirin Province.
 69676. No. 8024. From Chichangchen, Kirin Province.
 69677. No. 8026. From Chunghsingchen, Heilungkiang Province.
 69678. No. 8031. From Wulihotzu, Kirin Province.
 69679. No. 8035. From Kaoantsun.
 69680. No. 8040. From Chinghochén, Heilungkiang Province.
 69681. No. 8043. From Kaolingchang-tzu.
 69682. No. 8048. From Shalanchén, Kirin Province.
 69683. No. 8049. From Liangchiatzu, Kirin Province.
 69684. No. 8056. From Yilaha, Heilungkiang Province.
 69685. No. 8062. From Suihua.
 69686. No. 8065. From Toutaokou, Kirin Province.
 69687. No. 8070. From Heinchán, Heilungkiang Province.
 69688. No. 8071. From Tungchiang.
 69689. No. 8077. From Mulanchén, Heilungkiang Province.
 69690. No. 8080. From Chuchichuan, Kirin Province.
 69691. No. 8086. From Wutaitzu.
 69692. No. 8089. From Tungfossu, Kirin Province.
 69693. No. 8092. From Chouchiaying, Kirin Province.
 69694. No. 8097. From Hueitzusan-ching, Heilungkiang Province.

69550 to 69712—Continued.

69695. No. 8101. From Changshanpei, Heilungkiang Province.
 69696. No. 8103. From Kaomaotzu.
 69697. No. 8108. From Ertaokou, Kirin Province.
 69698. No. 8113. From Tungning, Kirin Province.
 69699. No. 8116. From Kangyao, Kirin Province.
 69700. No. 8122. From Chiapanchan, Kirin Province.
 69701. No. 8126. From Shangmalanho, Kirin Province.
 69702. No. 8131. From Tungchingcheng, Kirin Province.
 69703. No. 8133. From Yapieli, Kirin Province.
 69704. No. 8139. From Fatehamiu, Kirin Province.
 69705 to 69712. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.
Common wheat.
 69705. No. 7476. From Yimapaítzu, Kirin Province.
 69706. No. 7481. From Nunchiang.
 69707. No. 7485. From Yushukou, Kirin Province.
 69708. No. 7489. From Shichienping.
 69709. No. 7493. From Holung.
 69710. No. 7498. From Chingshanpu.
 69711. No. 7502. From Yunghsingchen, Heilungkiang Province.
 69712. No. 7510. From Changshantun, Kirin Province.
 69713. *CHAYOTA EDULIS* Jacq. (*Seschium edule* Swartz). Cucurbitaceae.
Chayote.
 From San Jose, Costa Rica. Fruits presented by Frederico Peralta, Director, Costa Rican Department of Agriculture. Received November 16, 1926.
 A Costa Rican variety.
 69714 to 69848.
 From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November and December, 1926.
 69714 to 69778. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.
Common wheat.
 Seeds obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.
 69714. No. 7514. From Hsiangchiao-chen.
 69715. No. 7518. From Laochengchi, Heilungkiang Province.
 69716. No. 7522. From Mangnaichen, Heilungkiang Province.
 69717. No. 7526. From Hsiaosufen.
 69718. No. 7529. From Hsiashantun.
 69719. No. 7533. From Chuchiacheng-tzu.

69714 to 69848—Continued.

69720. No. 7537. From Tachingsui, Kirin Province.
 69721. No. 7541. From Halahaicheng-tzu, Kirin Province.
 69722. No. 7545. From Nungan.
 69723. No. 7549. From Fangnoukou.
 69724. No. 7554. From Imienpo.
 69725. No. 7558. From Hanchiatien, Kirin Province.
 69726. No. 7562. From Mengchiang.
 69727. No. 7567. From Shuangyangho.
 69728. No. 7571. From Laotoukou, Kirin Province.
 69729. No. 7577. From Peiyinbo.
 69730. No. 7581. From Tungkouchen, Kirin Province.
 69731. No. 7585. From Hengshengpu, Heilungkiang Province.
 69732. No. 7589. From Yungching-weitzu.
 69733. No. 7593. From Pataohotzu, Kirin Province.
 69734. No. 7597. From Pachiatzu.
 69735. No. 7605. From Itung.
 69736. No. 7609. From Hsinglungtun.
 69737. No. 7967. From Chitamu, Kirin Province.
 69738. No. 7972. From Langchiashao-kuo, Kirin Province.
 69739. No. 7974. From Wuchiatzu.
 69740. No. 7979. From Wangkuei.
 69741. No. 7981. From Peianchen, Heilungkiang Province.
 69742. No. 7985. From Sanhsing.
 69743. No. 7992. From Yinmaho, Kirin Province.
 69744. No. 7996. From Tiehlingho.
 69745. No. 7999. From Shihtun.
 69746. No. 8003. From Huayuan.
 69747. No. 8005. From Pamientung, Kirin Province.
 69748. No. 8012. From Haihsingchen, Heilungkiang Province.
 69749. No. 8015. From Wuchiachan.
 69750. No. 8017. From Shuangfengchuan, Kirin Province.
 69751. No. 8023. From Chichangchen, Kirin Province.
 69752. No. 8027. From Chunghsingchen, Heilungkiang Province.
 69753. No. 8032. From Wulihotzu, Kirin Province.
 69754. No. 8036. From Kaoantsun.
 69755. No. 8039. From Chinghochien, Heilungkiang Province.
 69756. No. 8042. [No locality given.]
 69757. No. 8045. From Shalanchen, Kirin Province.
 69758. No. 8052. From Liangchiaotzu, Kirin Province.

69714 to 69848—Continued.

69759. No. 8053. From Kuku, Heilungkiang Province.
 69760. No. 8057. From Yilaha, Heilungkiang Province.
 69761. No. 8059. From Suihua.
 69762. No. 8064. From Toutaokou, Kirin Province.
 69763. No. 8067. From Heinchan, Heilungkiang Province.
 69764. No. 8073. From Tungchiang.
 69765. No. 8075. From Mulanchen, Heilungkiang Province.
 69766. No. 8082. From Chuchichuan, Kirin Province.
 69767. No. 8083. From Wutaitzu.
 69768. No. 8088. From Tungfossu, Kirin Province.
 69769. No. 8098. From Changshanpu, Heilungkiang Province.
 69770. No. 8104. From Kaomaotzu.
 69771. No. 8109. From Ertaokou, Kirin Province.
 69772. No. 8115. From Tungning, Kirin Province.
 69773. No. 8119. From Kangyao, Kirin Province.
 69774. No. 8120. From Chiapanchan, Kirin Province.
 69775. No. 8125. From Shangmalanhuo, Kirin Province.
 69776. No. 8130. From Tungchingcheng, Kirin Province.
 69777. No. 8134. From Yapuli, Kirin Province.
 69778. No. 8138. From Fatehamen, Kirin Province.
 69779 to 69788. *CHAETUCHLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.
 69779. No. 8303. From Huapichang, Kirin Province. Obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.
 Nos. 69780 to 69788 were obtained from the experimental field through F. F. Terentieff, director of the land department, Chinese Eastern Railway.
 69780. No. 8499. *Hsuihshanko*.
 69781. No. 8501. *Huangomai wukusu*.
 69782. No. 8502.
 69783. No. 8503. *Badawieyilu*.
 69784. No. 8504.
 69785. No. 8505.
 69786. No. 8506. *Taowbash*.
 69787. No. 8508. *Hei shu* (black millet).
 69788. No. 8509. *Hungohu*.
 69789 to 69811. *HORDEUM VULGARE PAL-LIDUM* Seringe. Poaceae. Six-rowed barley.
 Nos. 69789 to 69794 were obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.
 69789. No. 7320. From Ssuboching.

69714 to 69848—Continued.

69790. No. 7324. From Hsilingho, Kirin Province.

69791. No. 7343. From Wuchangpu, Kirin Province.

69792. No. 7355. From Yentungshan, Kirin Province.

69793. No. 7390. From Changanpu, Kirin Province.

69794. No. 8240. From Tabeiho, Heilungkiang Province.

Nos. 69795 to 69811 were obtained through F. F. Terentief, director of the land department, from the experimental field of the Chinese Eastern Railway.

69795. No. 8452. *Hai sheu wei ta mai*.

69796. No. 8453. *Pei ching ta mai*.

69797. No. 8454. *Gonashichi No. 2*.

69798. No. 8455. *Tsao ta mai* (early barley).

69799. No. 8456. *Gonashichi No. 4*.

69800. No. 8457. *Gonashichi chieitmak*.

69801. No. 8458. *Gonashichi No. 1*.

69802. No. 8459. *Pulanishaoweitzu*.

69803. No. 8463. *Feng tien pai* (Mukden white barley).

69804. No. 8464. *Chihitanitzu*. Seeds originally from Kanghsien.

69805. No. 8466. *Chiehlimak*.

69806. No. 8468. *Haio tsu muchi*.

69807. No. 8469. *Shihualitsenpalok No. 14*.

69808. No. 8470. *Bulaochi yuna*.

69809. No. 8471. *Chihitanitzu*.

69810. No. 8472. *Hanayihansien*.

69811. No. 8473. *Muyipeilishu*.

69812. *LESPEDEZA BICOLOR* Turcz. Fabaceae.

No. 6752. September 28, 1926. Obtained through the Manchurian Research Society; originally collected in the vicinity of Ertsendiantzy.

For previous introduction see No. 65746.

69813 to 69818. *PANICUM MILIACEUM* L. Poaceae. **Proso.**

Obtained from the experimental field through F. F. Terentief, director of the land department, Chinese Eastern Railway.

69813. No. 8511. *Laoghlcala kulutaiacs*.

69814. No. 8512. *Huei shu tsu tao tsu*.

69815. No. 8513. *Huang tau shu tsu*.

69816. No. 8514. *Pai shu tsu No. 2* (white millet No. 2).

69817. No. 8515. *Pai shu tsu No. 1* (white millet No. 1).

69818. No. 8516. *Li se shu tsu* (brown millet).

69819. *PINUS SINENSIS* Lambert. Pinaceae. **Chinese pine.**

No. 8517. October 3, 1926. Obtained through the Manchurian Research So-

69714 to 69848—Continued.

ciety, Harbin, from cones collected in the fall of 1925.

For previous introduction see No. 62472.

69820. *VIBURNUM BUREJAETICUM* Regel and Herd. Caprifoliaceae.

Manchurian viburnum.

No. 7270. Ertsendiantzy. October 15, 1926. Chinese name, *Chi shu tiao tsu* (season tree). A shrub up to 5 meters high, with dense cyms of white flowers and bluish black berries. The tender branches are said to be used for making baskets.

Nos. 69821 to 69827 were obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.

69821 and 69822. *ZEA MAYS* L. Poaceae. **Corn.**

69821. No. 7388. From Shihchuanchen, Heilungkiang Province.

69822. No. 8592. From Tabuangti, Kirin Province.

69823 to 69827. *AVENA SATIVA* L. Poaceae. **Oats.**

69823. No. 8181. From Jalanour, Heilungkiang Province.

69824. No. 8202. [No locality given.]

69825. No. 8208. From Pokatu.

69826. No. 8233. From Yalu, Heilungkiang Province.

69827. No. 8235. From Chuerkanho.

Nos. 69828 to 69842 were obtained from the experimental field of the Chinese Eastern Railway, through F. F. Terentief, director of the land department.

69828 and 69829. *CHAETOCHELOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. **Millet.**

69828. No. 8500. *Posha*.

69829. No. 8507. *Lung chao*.

69830 to 69842. *SORGHUM VULGARE* Pers. Poaceae. **Sorghum.**

69830. No. 8474. *Hagee hatsu fang-paiyiyen No. 4*.

69831. No. 8475. *Pai kaoliangk* (white kaoliang).

69832. No. 8476. *Choshenkomaitze*.

69833. No. 8477. *Huankomaioiw*.

69834. No. 8478. *Hunkomaioiw*.

69835. No. 8479. *Huangomaioiw*.

69836. No. 8480. *Huangoshanahui*.

69837. No. 8481. *Heihsingopanko*.

69838. No. 8482. *Tiao chu miao tsu*.

69839. No. 8483. *Lao mu chu pu tai tou* (old pig does not lift up his head).

69840. No. 8484. *Hei ko shih yen hung ko*.

69841. No. 8485. *Lao ku tsu*.

69842. No. 8486. *Chu yi chih chu ko*.

69843. *SORGHUM VULGARE* Pers. Poaceae. **Sorghum.**

No. 8594. From Tabuangti, Kirin Province, obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.

69714 to 69848—Continued.

Nos. 69844 to 69846 were obtained from the experimental field of the Chinese Eastern Railway, through F. F. Terentief, director of the land department.

69844. *HORDEUM VULGARE COELESTE* L. Poaceae. Six-rowed barley.

No. 8465. *Peking*.

69845. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Poaceae. Six-rowed barley.

No. 8451. *Feng tien hei* (black barley of Mukden).

69846. *PANICUM MILIACEUM* L. Poaceae. Proso.

No. 8510. *Laokoilwala raokolutaiows*.

Numbers 69847 and 69848 were obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.

69847. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

No. 8615. From Santaokang, Kirin Province.

69848. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. Six-rowed barley.

No. 8323. From Tungnanchen, Heilungkiang Province.

69849. *PRUNUS CERASIFERA PISSARDI* × *SALICINA*. Amygdalaceae.

From Chico, Calif. A hybrid originated by the late Walter Van Fleet at Little Silver, N. J., and grown at the Chico Plant Introduction Garden. Numbered December, 1926.

Tree 3, row 66, old test orchard. Tree small, fairly vigorous, prolific; fruits rounded, about 1¾ inches in diameter; skin dark red, overspread with bluish bloom, dots numerous and small; flesh light red, firm, very juicy, sweet, of fair quality; pit large, pointed, oval, flat, clinging to flesh. Fruits very attractive in appearance, good for home use. Ripens at Chico from late May until the middle of June.

69850 to 69864.

From Brignoles, France. Seeds presented by Dr. R. Salgues, Director, Brignoles Botanic Station. Received November 15, 1926.

69850. *CORONILLA SCORPIOIDES* (L.) Koch. Fabaceae.

An erect yellow-flowered herbaceous perennial, about 6 inches high, native to the Mediterranean countries.

For previous introduction see No. 37638.

69851. *CRUPINA VULGARIS* Pers. Asteraceae.

A thistlelike herbaceous plant, about 3 feet high, with pinkish flowers. Native to the Mediterranean countries.

69852. *CYNOSURUS ECHINATUS* L. Poaceae. Grass.

An annual bushy grass, up to 2 feet high, with slender stems, native to southern Europe.

69853. *EUPHORBIA SERRATA* L. Euphorbiaceae. Spurge.

A herbaceous perennial, native to the warmer parts of southern Europe, with narrow serrate leaves.

69850 to 69864—Continued.

69854. *GLADIOLUS SEGETUM* Ker. Iridaceae.

A European gladiolus of free habit, fond of warm dry soil and a sunny situation, with rather small rose-purple flowers. It is an admirable species for mixed borders.

For previous introduction see No. 57858.

69855. *JUNIPERUS PHOENICEA* L. Pinaceae. Phoenician juniper.

A low ornamental evergreen tree about 20 feet high, native to dry places in the Mediterranean countries.

For previous introduction see No. 65020.

69856. *LATHYRUS APHACA* L. Fabaceae.

A semiprostrate or ascending yellow-flowered leguminous herb, native to Asia Minor.

For previous introduction see No. 40313.

69857. *MEDICAGO MINIMA* (L.) Grufberg. Fabaceae.

A prostrate leguminous annual, with stems about 2 feet long, native to dry situations in southern Europe.

For previous introduction see No. 57899.

69858. *ONOBRYCHIS CAPUT-GALLI* (L.) Lam. Fabaceae.

An annual or biennial, prostrate or ascending plant with stems up to 3 feet in length. Native to dry situations in the Mediterranean region.

For previous introduction see No. 64637.

69859. *RUMEX BUCEPHALOPHORUS* L. Polygonaceae.

A hardy European herbaceous plant, the leaves of which are used as greens.

69860. *SCORZONERA HIRSUTA* L. Cichoriaceae.

A hardy herbaceous thistlelike perennial, about 1½ feet high, with white flowers. Native to southern Europe.

69861. *TAMUS COMMUNIS* L. Dioscoreaceae.

A twining herbaceous perennial, belonging to the yam family, with a tuberous root and bearing small red berries. Native to Europe and Asia.

69862. *THLASPI ALLIACEUM* L. Brassicaceae.

A herbaceous plant, belonging to the mustard family; the seeds, which taste like garlic, are used medicinally for rheumatism.

69863. *TRIFOLIUM STELLATUM* L. Fabaceae. Clover.

An annual upright clover, up to a foot high, native to the Mediterranean region.

For previous introduction see No. 64645.

69864. *CYNANCHUM VINETOXICUM* (L.) Pers. Asclepiadaceae.

A hardy herbaceous perennial, 2 to 3 feet high, with white flowers. Native to Europe.

69865. *ILEX PARAGUARIENSIS* St. Hil.
Aquifoliaceae. Yerba maté.

From Asuncion, Paraguay. Seeds presented by Dr. C. Fiebrig, director, Botanic Garden. Received November 12, 1926.

A tender evergreen Paraguayan holly the leaves of which are dried and used to make the beverage called "maté," or Paraguay tea.

69866 to 69869. *SOLANUM TUBEROSUM* L.
Solanaceae. Potato.

From Wolverhampton, England. Tubers obtained from F. W. Keay, through William Stuart, Bureau of Plant Industry. Received November 24, 1926.

English varieties.

69866. *Keay's Champion*.

69867. *King Edward* × *Patterson's Champion*.

69868. *Magnum Bonum* × *Patterson's Victoria*.

69869. *Patterson's Victoria*.

69870. *PSIDIUM GUAJAVA* L. Myrta-
ceae. Guava.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received November 15, 1926.

The red Peruvian guava is fully as prolific as the white variety, but the flesh is not so thick around the seed. The flavor is delicious, and the fruits average 5 or 6 ounces in weight.

69871. *SCHIZOPHRAGMA HYDRANGEOIDES*
Sieb. and Zucc. Hydrangeaceae.

From Jamaica Plain, Mass. Cuttings presented by C. S. Sargent, Arnold Arboretum. Received November 19, 1926.

An ornamental climbing Japanese shrub, 30 feet or more long, with handsome bright-green rounded leaves and showy clusters of white flowers. Probably hardy throughout all but the extreme northern parts of the United States.

For previous introduction see No. 40068.

69872. *DAVIDIA INVOLUCRATA* Baill.
Cornaceae.

From Paris, France. Seeds presented by A. Gerard. Received November 26, 1926.

The Chinese dove tree, as this is sometimes called, is a native of the mountain forests of central and western China. In its native home it becomes a tree 75 feet tall, with a shapely pyramidal crown. When in bloom the tree is unusually striking because of the two or three large, snow-white bracts which subtend each flower. These bracts are of unequal size, the larger being 4 to 8 inches long and 2 to 4 inches broad. The bright-green, oval, sharply toothed leaves are 3 to 6 inches long.

For previous introduction see No. 65489.

69873 and 69874. *PSIDIUM GUAJAVA* L.
Myrtaceae. Guava.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received November 24, 1926.

69873. For previous introduction and description see No. 69870.

69873 and 69874—Continued.

69874. The white Peruvian guava is more prolific and has thick sweet flesh of delicious flavor. The average weight is about 5 ounces, occasional fruits weighing 9 ounces.

69875. *EREMOCITRUS GLAUCA* (Lindl.)
Swingle (*Atalantia glauca* Benth.).
Rutaceae.

Australian desert kumquat.

From Dundas, New South Wales. Seeds presented by Herbert J. Rumsey. Received November 24, 1926.

A shrub or small tree about 14 feet high, native to the deserts of northeastern Australia. The small thick leathery leaves are gray green, and the fruits are about half an inch in diameter. The acid juice of the fruit forms the basis of an agreeable beverage, and the peel has the sweetish flavor of the kumquat. It is the hardiest of all the evergreen citrus fruits and is of promise to plant breeders.

For previous introduction see No. 66869.

69876 to 69895.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 17, 1926.

These seeds were collected by I. V. Kosloff, Manchurian Research Society, Harbin.

69876 to 69880. *ACER* spp. Aceraceae.
Maple.

69876 and 69877. *ACER BARBINERVE* Maxim.

A shrubby maple, native to Manchuria, with coarsely toothed, 5-lobed leaves.

For previous introduction see No. 65909.

69876. No. 6738. September 14, 1926. Collected in the vicinity of Shitounkhtsy in the forest concession of the Chinese Eastern Railway.

69877. No. 6740. September 10, 1926. Collected in the vicinity of Shitounkhtsy in the forest concession of the Chinese Eastern Railway.

69878. *ACER GINNALA* Maxim.

No. 6750. September 28, 1926. Vicinity of Ertsemdiantzy. A small tree, or large shrub, of bushy habit, with 3-lobed, slightly heart-shaped leaves and very fragrant white flowers in short panicles, which appear in May. This maple is closely allied to *Acer tataricum*, but differs markedly in shape of leaf. The foliage turns a beautiful red before falling, the species being one of the best for autumnal coloring. It is native to Manchuria and Japan.

For previous introduction see No. 65910.

69879. *ACER MANDSHURICUM* Maxim.

No. 6743. September 19, 1926. Vicinity of Shitounkhtsy in the forest concession of the Chinese Eastern Railway. A small hardy tree or large shrub, with leaves composed of three leaflets, the terminal one 3 inches long and the lateral ones shorter. Native to eastern Siberia and Manchuria.

For previous introduction see No. 65480.

69876 to 69895—Continued.

69880. *ACER CAUDATUM* UKURUNDUENSE (Trautv. and Meyer) Rehder.

No. 6741. September 19, 1926. Vicinity of Shitoukhetsy, in the forest concession of the Chinese Eastern Railway. A small hardy Manchurian tree with coarsely toothed, 5-lobed or 7-lobed leaves.

For previous introduction see No. 65911.

69881. *ACTINIDIA KOLOMIKTA* (Maxim.) Rupr. Dilleniaceae.

No. 6736. September 14, 1926. Shitoukhetsy, in the forest concession of the Chinese Eastern Railway. A hardy ornamental deciduous vine, up to 15 feet long, with oval serrate leaves blotched with white, creamy white flowers three-fourths of an inch across, and ovoid blue fruits. Native to northeastern Asia.

For previous introduction see No. 65612.

69882. *ARALIA ELATA* Seem. Araliaceae.

No. 6757. September, 1926. Vicinity of Ertsemdiantsty. A small hardy Manchurian tree, resembling *Aralia spinosa* (Hercules club), but more tree-like, with few spines. It does not form many branches, but the large bipinnate leaves cast a good shade. The greenish white flowers are borne in large panicles, and the berries are dark red when ripe, producing a very pleasing effect.

For previous introduction see No. 65913.

69883. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

No. 6584. September 4, 1926. A locally grown variety obtained in the market by one of the Chinese boys. This watermelon is of good size, with the rind about half an inch thick. The melting juicy flesh, golden or orange colored, is of very good quality.

69884. *CORYLUS HETEROPHYLLA* Fisch. Betulaceae. Hazel.

No. 6747. September 28, 1926. Ertsemdiantsty. A hardy shrubby hazel, 12 feet or less high, with nuts about one-fourth of an inch long. Native to Manchuria.

For previous introduction see No. 65622.

69885. *CORYLUS SIEBOLDIANA* MANDSHURICA (Maxim.) C. Schneid. Betulaceae. Hazel.

No. 6745. September 25, 1926. Ertsemdiantsty. A hardy shrub up to 15 feet high, with nuts about one-fourth of an inch long. Native to Manchuria.

For previous introduction see No. 65520.

69886 and 69887. *CRATAEGUS PINNATIFIDA* Bunge. Malaceae. Hawthorn.

A handsome hardy thorny shrub, native to northern China, with edible dark-red fruits.

69886. No. 6748. September 28, 1926. Ertsemdiantsty.

69887. No. 6754. September 28, 1926. Ertsemdiantsty.

69876 to 69895—Continued.

69888. *LONICERA MAACKII* (Rupr.) Herd. Caprifoliaceae. Honeysuckle.

No. 6759. September 28, 1926. Vicinity of Ertsemdiantsty. A bush honeysuckle, native to northeastern China, becoming about 10 feet high with widely spreading branches and dark-green leaves which are downy on both surfaces. The pure white flowers, an inch in diameter, are produced in pairs on the upper side of the branchlets. The fruits are red.

For previous introduction see No. 65937.

69889. *RHAMNUS DAVURICA* Pall. Rhamnaceae. Dahurian buckthorn.

No. 6753. September 28, 1926. Vicinity of Ertsemdiantsty. A large hardy spreading shrub or small tree, up to 30 feet high, with oblong leaves 2 to 4 inches long, greenish flowers, and black berries about three-eighths of an inch in diameter. Native to northeastern Asia.

For previous introduction see No. 65677.

69890. *RHAMNUS PARVIFOLIA* Bunge. Rhamnaceae.

No. 6755. September 28, 1926. Vicinity of Ertsemdiantsty. A *Rhamnus* of dense growth, having small foliage and bearing large jet-black berries. The shrub does not grow tall but assumes a well-rounded form when not mutilated. Of value as a garden and park shrub and as material for medium-sized hedges, especially for the drier sections of the United States. (Note by Frank N. Meyer under No. 36735.)

69891. *RIBES MANSHURICUM* (Maxim.) Komarov. Grossulariaceae. Currant.

No. 6742. September 17, 1926. At Shitoukhetsy in the forest concession of the Chinese Eastern Railway. A hardy Manchurian shrub about 6 feet high, which bears pendent racemes of red, subacid fruits.

For previous introduction see No. 65504.

69892. *SCHIZANDRA CHINENSIS* (Turcz.) Baill. Magnoliaceae.

No. 6734. September 25, 1926. At Shitoukhetsy in the forest concession of the Chinese Eastern Railway. A hardy ornamental woody vine, native to northeastern China, with shining dark-green oval leaves and compact clusters of small scarlet berries.

For previous introduction see No. 65287.

69893. *TILIA MANDSHURICA* Rupr. and Maxim. Tiliaceae. Linden.

No. 6751. September 28, 1926. Vicinity of Ertsemdiantsty. A hardy Manchurian tree, up to 60 feet high, with rounded-oval, coarsely toothed leaves, white-hairy beneath, and 4 to 6 inches long.

For previous introduction see No. 57346.

69894. *VIBURNUM SARGENTI* Koehne. Caprifoliaceae.

No. 6760. September 28, 1926. Vicinity of Ertsemdiantsty. An upright, compact hardy shrub, up to 15 feet high, generally similar to the American cranberry bush (*Viburnum americanum*), but with thicker leaves, hairy beneath, and larger sterile flowers, sometimes 1 1/4 inches across. The globose red berries are in upright cymes.

69876 to 69895—Continued.

For previous introduction see No. 56612.

69895. *VITIS AMURENSIS* Rupr. Vitaceae.
Amur grape.

No. 6758. September 28, 1926. Vicinity of Ertsemdiantzy. A local wild variety which is the best we have ever seen. The vine is a very strong grower; the bunches are larger and some of them very compact. The deep-blue or black grapes are of good size but contain large seeds and very little flesh, though there is a considerable amount of well-flavored juice which is made into wine. (Note by P. H. Dorsett under No. 65515.)

69896. *TROPAEOLUM TUBEROSUM* Ruiz and Pav. Tropaeolaceae.

From Edinburgh, Scotland. Tubers purchased from Dobbie & Co., The Royal Scottish Seed Establishment. Received November 30, 1926.

A tuberous-rooted herbaceous climber, with red and yellow flowers, native to the highlands of northern South America, where the tubers are boiled and eaten as a vegetable. The plant is said to be able to withstand a slight frost.

For previous introduction see No. 46625.

69897. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.

Common wheat.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry, through the cooperation of D. McLorn, Postal Commissioner, Harbin. Received December 12, 1926.

No. 8095. From Hueitzusanching, Heilungkiang Province.

69898. *GLADIOLUS* sp. Iridaceae.

From Vicosia, Minas Geraes, Brazil. Bulbs presented by Miss C. Rolfs, Escola Superior de Agricultura e Veterinaria. Received May 7, 1926. Numbered December, 1926.

From near the Pico das Bandeiras, one of the peaks of the Serra de Caparaó, at an altitude of about 2,000 meters. The flower is deep rose, more pinkish than red, with a darker throat and though not so large as the ordinary cultivated variety, the fact of there being 10 flowers out at the same time on the one stalk seems rather unusual. In cultivation every spike has three spikelets, with a varying number of blooms on a main spike and on the spikelets, a feature which would seem to make it good for breeding purposes. The first flowers on the side spikes were opening when the earliest ones of the main spike were past. (Miss Rolfs.)

69899 to 69931.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, Regius Keeper, Royal Botanic Gardens. Received November 13, 1926.

69899 to 69906. *ALLIUM* spp. Liliaceae.

69899. *ALLIUM ALBOPILOSUM* C. H. Wright.

A trans-Caspian species which has probably the largest flowers of the genus. The bulbs are large, and the strap-shaped leaves, 18 inches long, have longitudinal lines of white hairs

69899 to 69931—Continued.

beneath and on the edges. The scape is nearly 2 feet high and bears large heads 9 inches across, each composed of from 60 to 80 deep-lilac flowers.

For previous introduction see No. 58868.

69900. *ALLIUM BEESIANUM* W. W. Smith.

A western Chinese onion, 9 to 18 inches high, with pendulous blue flowers.

69901. *ALLIUM CARDIOSTEMON* Fisch. and Mey.

A bulbous plant, 1½ feet high, with small purplish flowers. Native to Transcaucasia.

69902. *ALLIUM KANSUENSE* Regel.

A blue-flowered bulbous plant, native to northwestern China.

69903. *ALLIUM MOLY* L.

A bulbous species with broad, glaucous leaves and scapes 10 to 15 inches high. The bright-yellow flowers are in compact heads. Native to southern Europe.

For previous introduction see No. 58681.

69904. *ALLIUM NARCISSIFLORUM* Vill.

An elegant Italian species, about 9 inches high, with nodding heads of beautiful rose-colored flowers.

For previous introduction see No. 58682.

69905. *ALLIUM OSTROWSKIANUM* Regel.

This species, native to Turkestan, has rose-colored flowers produced freely in many-flowered umbels on scapes 6 inches high.

For previous introduction see No. 66533.

69906. *ALLIUM YUNNANENSE* Diels.

A caespitose onion, native to southwestern China, with linear leaves about 6 inches long and pink or purplish flowers on a scape 4 to 16 inches long.

For previous introduction see No. 66535.

69907 to 69909. *ASTRAGALUS* spp. Fabaceae.

69907. *ASTRAGALUS FRIGIDUS* (L.) A. Gray. Milk vetch.

A perennial upright or ascending plant, entirely unbranched or with very few branches. Native to alpine slopes throughout northern Europe and Asia.

For previous introduction see No. 66518.

69908. *ASTRAGALUS PENDULIFLORUS* Lam.

A hardy herbaceous perennial up to 20 inches high, native to the alpine regions of central Europe.

69909. *ASTRAGALUS WULFENI* Koch.

An erect hardy herbaceous perennial, native to southwestern Europe.

69910. *BETA PATELLARIS* Moq. Chenopodiaceae.

69899 to 69931—Continued.

A Canary Island relative of the common beet (*Beta vulgaris*); it grows in sandy places along the shores of the islands.

For previous introduction see No. 30977.

69911. *CHIONODOXA LUCILIAE* Boiss. Liliaceae. **Glory-of-the-snow.**

Locally-grown seeds from Edinburgh, Scotland.

For previous introduction see No. 66458.

69912. *CORYDALIS CHEILANTHIFOLIA* Hemsl. Papaveraceae.

A tuberous-rooted perennial, with pale-yellow flowers. Native to central China.

69913. *CRAMBE CORDIFOLIA* Stev. Brassicaceae.

A herbaceous, white-flowered perennial, native to desert places in the mountainous regions of the Caucasus.

For previous introduction see No. 30771.

69914 to 69916. *DODECATHEON* spp. Primulaceae.

69914. *DODECATHEON JEFFREYI* Van Houtte.

A hardy herbaceous perennial, with purple, yellow, and brown flowers, native to the wet alpine meadows of the northwestern Pacific States.

69915. *DODECATHEON LEMOLNEI* Hort.

Variety *excelsum*. A hardy herbaceous perennial, a hybrid between *Dodecatheon ellipticum* and *D. jeffreyi*.

69916. *DODECATHEON PAUCIFLORUM* Greene.

A hardy herbaceous perennial, about 7 inches high, with oval or oblong leaves and purple flowers. Native to the northwestern United States and British Columbia.

69917. *ERODIUM WILKOMIANUM* Hort. Geraniaceae.

69918 to 69920. *IRIS* spp. Iridaceae.

69918. *IRIS DELAVAYI* Micheli.

An iris, 2 to 4 feet high, with violet and white flowers. Native to southwestern China.

69919. *IRIS SIBIRICA* L.

A compact tufted iris, native to central Europe and eastern Siberia. It has narrow green leaves 1 to 2 feet long, which are not rigid, and small clusters of violet and blue flowers borne on a tall slender stem.

69920. *IRIS VERSICOLOR* L.

A stout-stemmed iris, up to 2 feet high, native to Canada and the northern United States. It has sword-shaped leaves and violet-blue flowers variegated with green, yellow, and white toward the center.

69921. *LEUCOJUM TRICHOPHYLLUM* Schousb. Amaryllidaceae.

This graceful, bulbous plant, 2 feet high, with its white, hanging flowers, three or four on each stem, gives a delicate touch to the border. (Note under No. 64087 by David Fairchild.)

69899 to 69931—Continued.

For previous introduction see No. 64937.

69922 to 69927. *LILIUM* spp. Liliaceae.

69922. *LILIUM DUCHARTREI* Franch.

A western Chinese lily, 2 to 3 feet high, having white flowers tinged with rose.

69923 to 69925. *LILIUM MARTAGON* L. **Martagon lily.**

For previous introduction see No. 66470.

69923. Locally grown seeds.

69924. Var. *album*. A white-flowered form.

69925. Var. *album punctatum*. A white-flowered form with spots.

69926. *LILIUM PYRENAICUM* Gouan. **Lily.**

A European lily about 2 feet high, with dark-yellow flowers. Native to the Pyrenees.

69927. *LILIUM WILLMOTTIAE* Wilson.

A Chinese lily, 3 to 4 feet high, with orange-red, dark-spotted flowers.

69928 to 69930. *ORNITHOGALUM* spp. Liliaceae.

69928. *ORNITHOGALUM NARBONENSE* L.

Variety *pyramidale*. A bulbous plant, 2 to 3 feet high, with white and green flowers.

69929. *ORNITHOGALUM OLIGOPHYLLUM* Clarke.

A bulbous plant, about 5 inches high, with white and green flowers. Native to Asia Minor.

69930. *ORNITHOGALUM PYRENAICUM* L. **Star of Bethlehem.**

A bulbous plant, about 2 feet high, with greenish flowers, native to Europe.

69931. *TRITOMA NATALENSIS* (Baker) Skeels (*Kniphofia natalensis* Baker). Liliaceae. **Torch lily.**

A South African torch lily 2 to 3 feet high, with linear leaves and yellow flowers in a rather loose raceme about 7 inches long.

For previous introduction see No. 32971.

69932 to 70253.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry, through the cooperation of D. McLorn, Postal Commissioner, Harbin. Received November and December, 1926.

69932 to 70038. *PHASEOLUS* spp. Fabaceae.

69932. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. **Adzuki bean.**

No. 7139. From Tienpaoshan, Kirin Province. September, 1926.

69933 to 69935. *PHASEOLUS AUREUS* Roxb. **Mung bean.**

Locally grown seeds collected in September, 1926.

69932 to 70253—Continued.

69933. No. 6780. From Mushihho, Kirin Province.
 69934. No. 6784. From Ssuchatzu, Kirin Province.
 69935. No. 6788. From Fuyuhshien, Kirin Province.
 69936. No. 6792. From Shulanpaitun, Kirin Province.
 69937. No. 6796. From Wuchangchu.
 69938. No. 6800. From Ahcheng.
 69939. No. 6904. From Hsiangyangpao, Kirin Province.
 69940. No. 6808. From Wangching.
 69941. No. 6812. From Ching kang.
 69942. No. 6816. From Kirin, Kirin Province.
 69943. No. 6820. From Malienkensang, Heilungkiang Province.
 69944. No. 6822. From Mahao, Kirin Province.
 69945. No. 6826. From Chiamussu.
 69946. No. 6830. From Hailar. Mung beans are said not to be grown in Hailar. Probably these seeds originally came from some other section.
 69947. No. 6833. From Mishan.
 69948. No. 6837. From Shulan.
 69949. No. 6841. From Kuanmashan.
 69950. No. 6845. From Lungchingtsun.
 69951. No. 6849. From Tatzuching.
 69952. No. 6852. From Chaochuh-siehtang, Heilungkiang Province.
 69953. No. 6856. From Chungshingchen, Heilungkiang Province.
 69954. No. 6860. From Wukeshu, Kirin Province.
 69955. No. 6864. From Pachitieh.
 69956. No. 6868. From Hsinlichen-shulan, Kirin Province.
 69957. No. 6872. From Heiershu.
 69958. No. 6875. From Tanguang.
 69959. No. 6879. From Wangtechuchingtzu.
 69960. No. 6914. From Chihshienchen, Kirin Province.
 69961. No. 6925. From Shengpingchen, Heilungkiang Province.
 69962. No. 7094. From Yungtsingyuan, Kirin Province.
 69963. No. 7102. From Shanhowan, Kirin Province.
 69964. No. 7106. From Hsiaosan-chakon, Kirin Province. Seeds of the 1925 crop.
 69965. No. 7110. From Hsiaoshuangchingpu, Kirin Province.
 69966. No. 7114. From Chaochou.
 69967. No. 7118. From Tailaichi.
 69968. No. 7122. From Chaoyangshan, Kirin Province.

69932 to 70253—Continued.

69969. No. 7126. From Ningkuta.
 69970. No. 7130. From Hsingjenchen, Heilungkiang Province.
 69971. No. 7134. From Hsiao-ching-tzu, Kirin Province.
 69972. No. 7138. From Tienpaoshan, Kirin Province.
 69973. No. 7147. Naho.
 69974. No. 7162. From Tiehshanpao.
 69975. No. 7166. From Taolaichao.
 69976. No. 7186. From Ertaokou.
 69977. No. 7190. From Tungchiangfu, Heilungkiang Province.
 69978. No. 7208. From Hengtaohotzu, Kirin Province.
 69979. No. 7212. From Tulungchian, Kirin Province. This sample contains green and brownish seeds.
 69980. No. 7228. From Ningnienchan, Heilungkiang Province.
 69981. No. 7232. From Lanpaiochiaio, Kirin Province.
 69982. No. 7236. From Panshihshien.
 69983. No. 7240. From Paoching.
 69984. No. 7244. From Nanyangtsun.
 69985. No. 7248. From Nantzuchengyin, Kirin Province.
 69986 to 69990. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.
 Locally grown seeds collected in September, 1926.
 69986. No. 6786. From Ssuchatzu, Kirin Province.
 69987. No. 6814. From Ching kang.
 69988. No. 6824. From Mahao, Kirin Province.
 69989. No. 7100. From Naoau.
 69990. No. 7246. From Nanyangtsun.
 69991 to 70038. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.
 69991. No. 6782. From Mushihho, Kirin Province.
 69992. No. 6790. From Fuyuhshien, Kirin Province.
 69993. No. 6794. From Shulanpaitun, Kirin Province.
 69994. No. 6798. From Wuchangchu.
 69995. No. 6802. From Ahcheng.
 69996. No. 6806. From Hsiangyangpao, Kirin Province.
 69997. No. 6810. From Wangching.
 69998. No. 6818. From Kirin, Kirin Province.
 69999. No. 6821. From Malienkinsang, Heilungkiang Province.
 70000. No. 6828. From Chiamussu. Beans rather round, quite large, hilums almost white.
 70001. No. 6835. From Mishan.
 70002. No. 6839. From Shulan.
 70003. No. 6843. From Kuanmashan.

69932 to 70253—Continued.

70004. No. 6847. From Lungchingsun.
70005. No. 6850. From Tatzuching.
70006. No. 6854. From Chaohuhsieh-tang, Heilungkiang Province.
70007. No. 6858. From Chunghsingchen, Heilungkiang Province.
70008. No. 6862. From Wukeshu, Kirin Province.
70009. No. 6866. From Bachitieh.
70010. No. 6870. From Hsinlichen-shulan, Kirin Province.
70011. No. 6874. From Heiershun.
70012. No. 6877. From Tangyuan.
70013. No. 6916. From Chihhsienchen, Kirin Province.
70014. No. 6920. From Hallin.
70015. No. 6923. From Jalantun.
70016. No. 7096. From Yungtsengyuan, Kirin Province.
70017. No. 7104. From Shanghowan, Kirin Province.
70018. No. 7108. From Hsiaosan-chakou, Kirin Province.
70019. No. 7112. From Hsiaoshuang-chingpu, Kirin Province.
70020. No. 7116. From Chaochou.
70021. No. 7120. From Tailaichi.
70022. No. 7124. From Chaoyangshan, Kirin Province.
70023. No. 7128. From Nungkuta.
70024. No. 7132. From Hsingjenchen, Heilungkiang Province.
70025. No. 7136. From Hsiaoching-tzu, Kirin Province.
70026. No. 7141. From Tienpaoshan, Kirin Province.
70027. No. 7145. From Nungchen, Heilungkiang Province.
70028. No. 7164. From Tiehshanpao.
70029. No. 7168. From Taolaichao.
70030. No. 7188. From Ertaokou.
70031. No. 7210. From Hengtaohotzu, Kirin Province.
70032. No. 7214. From Tulungchuan, Kirin Province.
70033. No. 7226. From Tapahao, Kirin Province.
70034. No. 7230. From Ningnienchan, Heilungkiang Province.
70035. No. 7234. From Lanpsao-chiao, Kirin Province.
70036. No. 7238. From Pansihhsien.
70037. No. 7242. From Paoching.
70038. No. 7250. From Nantzuchingyung, Kirin Province.
70039. *AVENA SATIVA* L. Poaceae. Oats. No. 7159. From Keertarhsi, Heilungkiang Province. September, 1926.
70040. *CHAETOCHELOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.

69932 to 70253—Continued.

- No. 7158. From Keertarhsi, Heilungkiang Province, September, 1926.
- 70041 to 70173. *PHASEOLUS* spp. Fabaceae.
- Locally grown seed collected in September, 1926.
70041. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Adzuki bean. No. 7224. From Tapahao, Kirin Province.
- 70042 to 70069. *PHASEOLUS AUREUS* Roxb. Mung bean.
70042. No. 6882. From Chungaitsun.
70043. No. 6886. From Suifenho.
70044. No. 6890. From Lungchingsun, Kirin Province.
70045. No. 6894. From Yakeshih, Heilungkiang Province.
70046. No. 6898. From Fularki.
70047. No. 6902. From Bayen.
70048. No. 6906. From Tunhuahsien.
70049. No. 6910. From Chenghsienchiao.
70050. No. 6918. From Hallin.
70051. No. 6922. From Jalantun.
70052. No. 7098. From Mapai.
70053. No. 7143. From Hsingnungchen, Heilungkiang Province.
70054. No. 7151. From Kungpeng-tzu.
70055. No. 7155. From Nananchen, Heilungkiang Province.
70056. No. 7170. From Tungchailun, Kirin Province.
70057. No. 7174. From Mintzushihching, Heilungkiang Province.
70058. No. 7178. From Hushuliho.
70059. No. 7182. From Tatientzu, Kirin Province.
70060. No. 7197. From Nieutzushan, Heilungkiang Province.
70061. No. 7200. From Ahcheng.
70062. No. 7204. From Taweitzukou, Kirin Province.
70063. No. 7216. From Paochiakou, Kirin Province.
70064. No. 7220. From Shanhotun.
70065. No. 7252. From Shahoyen, Kirin Province.
70066. No. 7256. From Kuanti, Kirin Province.
70067. No. 7260. From Chichachae, Kirin Province.
70068. No. 7271. From Wengshengchiehtzu, Kirin Province.
70069. No. 7275. From Minchiatun, Kirin Province.
- 70070 to 70073. *PHASEOLUS VULGARIS* L. Common bean.
70070. No. 6926. From Shengpingchen, Heilungkiang Province.
70071. No. 7184. From Tatientzu, Kirin Province.

69932 to 70253—Continued.

70072. No. 7195. From Taputzuho-hou, Kirin Province.
70073. No. 7273. From Wengchang-chiehtzu, Kirin Province.
- 70074 to 70096. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.
70074. No. 6884. From Chungaitsun.
70075. No. 6888. From Surfenho.
70076. No. 6892. From Lungchingtsun, Kirin Province.
70077. No. 6896. From Yakeshih, Heilungkiang Province.
70078. No. 6900. From Fularti.
70079. No. 6904. From Bayen.
70080. No. 6908. From Tunhuasien.
70081. No. 6912. From Chengheingchiaio.
70082. No. 7149. From Naho.
70083. No. 7153. From Kungpengtzu.
70084. No. 7172. From Tungchialun, Kirin Province.
70085. No. 7176. From Mintzushihching, Heilungkiang Province.
70086. No. 7180. From Hushuliho.
70087. No. 7192. From Tungchiangfu, Heilungkiang Province.
70088. No. 7198. From Nieutzushan, Heilungkiang Province.
70089. No. 7202. From Ahcheng.
70090. No. 7206. From Tawewtzukou, Kirin Province.
70091. No. 7218. From Paochiakou, Kirin Province.
70092. No. 7222. From Shanhotun.
70093. No. 7254. From Shahoyen, Kirin Province.
70094. No. 7258. From Kuanti, Kirin Province.
70095. No. 7262. From Chichachae, Kirin Province.
70096. No. 7277. From Minchiatun, Kirin Province.
- 70097 to 70173. PHASEOLUS AUREUS Roxb. Mung bean.
70097. No. 7473. From Yimapaitzu, Kirin Province.
70098. No. 7477. From Nunchiang.
70099. No. 7482. From Yushukou, Kirin Province.
70100. No. 7486. From Shihshienping.
70101. No. 7490. From Yunghsingchen, Heilungkiang Province.
70102. No. 7494. From Chingshanpu.
70103. No. 7499. From Yunghsingchen, Heilungkiang Province.
70104. No. 7504. Mohochen, Kirin Province.
70105. No. 7507. Changsbantun, Kirin Province.
70106. No. 7515. Laocheng, Heilungkiang Province.

69932 to 70253—Continued.

70107. No. 7519. Manghaichen, Heilungkiang Province.
70108. No. 7523. Hsiaosufen.
70109. No. 7527. Hsiasantun.
70110. No. 7530. Chuchiachengtzu, Kirin Province.
70111. No. 7534. Tachingsuj, Kirin Province.
70112. No. 7538. Halahaichingtzu, Kirin Province.
70113. No. 7542. Nungan.
70114. No. 7546. Fangniukou.
70115. No. 7550. Imienpo.
70116. No. 7555. Hanchiatien, Kirin Province.
70117. No. 7559. Mingchiang.
70118. No. 7564. Shuangyangho.
70119. No. 7568. Laotoukou, Kirin Province.
70120. No. 7572. Hsiaohaotzu, Heilungkiang Province.
70121. No. 7574. Peiyinbo.
70122. No. 7578. Tungkouchen, Kirin Province.
70123. No. 7582. Hengshengpu, Heilungkiang Province.
70124. No. 7586. Yungchingweitzu.
70125. No. 7590. Patahotzu, Kirin Province.
70126. No. 7594. Pachiatzu.
70127. No. 7598. Shuanghochien, Kirin Province.
70128. No. 7602. Itung.
70129. No. 7606. Hsinglungtun.
70130. No. 7968. Chitamu, Kirin Province.
70131. No. 7969. Langchiashaokuo, Kirin Province.
70132. No. 7976. Wuchiatzu.
70133. No. 7977. Wangkuei.
70134. No. 7984. Peianchen, Heilungkiang Province.
70135. No. 7987. Sanhsing.
70136. No. 7591. Yinmaho, Kirin Province.
70137. No. 7995. Tiehlingho.
70138. No. 7998. Shihtun.
70139. No. 8004. Huayuan.
70140. No. 8006. Pamientung, Kirin Province.
70141. No. 8010. Haihsingchen, Heilungkiang Province.
70142. No. 8013. Wuchiachan.
70143. No. 8019. Shuanfengchuan, Kirin Province.
70144. No. 8022. Chichangchen, Kirin Province.
70145. No. 8025. Chunghsingchen, Heilungkiang Province.
70146. No. 8030. Wulihotzu, Kirin Province.

69932 to 70253—Continued.

70147. No. 8034. Kaoantsun.
 70148. No. 8037. Chinghochén, Heilungkiang Province.
 70149. No. 8044. Kaolingchangtzu.
 70150. No. 8047. Shalanchén, Kirin Province.
 70151. No. 8051. Liangchiatzu, Kirin Province.
 70152. No. 8054. Kuku, Heilungkiang Province.
 70153. No. 8061. Suihua.
 70154. No. 8066. Toutaokou, Kirin Province.
 70155. No. 8068. Hainchan, Heilungkiang Province.
 70156. No. 8074. Tungchiang.
 70157. No. 8078. Mulanchén, Heilungkiang Province.
 70158. No. 8081. Chuchichuan, Kirin Province.
 70159. No. 8084. Wutaitzu.
 70160. No. 8087. Tungfossu, Kirin Province.
 70161. No. 8093. Chouchiaying, Kirin Province.
 70162. No. 8094. Huetzusanching, Heilungkiang Province.
 70163. No. 8099. Changshanpei, Heilungkiang Province.
 70164. No. 8105. Kaomaotzu.
 70165. No. 8107. Weishaho, Kirin Province.
 70166. No. 8110. Ertaokou, Kirin Province.
 70167. No. 8114. Tungning, Kirin Province.
 70168. No. 8118. Kangyao, Kirin Province.
 70169. No. 8121. Chiapanchan, Kirin Province.
 70170. No. 8127. Shangmalanhu, Kirin Province.
 70171. No. 8128. Tungchingcheng, Kirin Province.
 70172. No. 8135. Yapuli, Kirin Province.
 70173. No. 8136. Fatehamiu, Kirin Province.
 70174 to 70184. PHASEOLUS VULGARIS L. Fabaceae. Common bean.
 70174. No. 7475. Yimapaitsu, Kirin Province.
 70175. No. 7478. Nunchiang.
 70176. No. 7513. Hsiangchiaochen.
 70177. No. 7552. Imienpo.
 70178. No. 8011. Haihsingchen, Heilungkiang Province.
 70179. No. 8028. Chunghsingchen, Heilungkiang Province.
 70180. No. 8058. Yilaha, Heilungkiang Province.
 70181. No. 8063. Toutaokou, Kirin Province.

69932 to 70253—Continued.

70182. No. 8091. Chouchiaying, Kirin Province.
 70183. No. 8096. Huetzusanching, Heilungkiang Province.
 70184. No. 8111. Ertaokou, Kirin Province.
 70185 to 70253. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.
 70185. No. 7472. Old Harbin. October 11, 1926. *Hei yeu ta huang tou* (black eye large soy bean). A large round yellow soy bean with a very conspicuous, almost black hilum.
 70186. No. 7480. Nunchiang.
 70187. No. 7484. Yushukou, Kirin Province.
 70188. No. 7488. Shihchienping.
 70189. No. 7492. Holung.
 70190. No. 7497. Chingshanpu.
 70191. No. 7501. Yunghsingchen, Heilungkiang Province.
 70192. No. 7505. Mohochen, Kirin Province.
 70193. No. 7509. Changshantun, Kirin Province.
 70194. No. 7517. Laochenchi, Heilungkiang Province.
 70195. No. 7521. Mangnaichen, Heilungkiang Province.
 70196. No. 7525. Hsiaosufen.
 70197. No. 7532. Chuchiachengtzu, Kirin Province.
 70198. No. 7536. Tachingsui, Kirin Province.
 70199. No. 7540. Halahaichengtzu, Kirin Province.
 70200. No. 7544. Mungan.
 70201. No. 7548. Fangniukou.
 70202. No. 7557. Hanchiatien, Kirin Province.
 70203. No. 7560. Mingchiang.
 70204. No. 7566. Shuangyuanho.
 70205. No. 7570. Laotoukou, Kirin Province.
 70206. No. 7573. Hsiaohaotzu, Heilungkiang Province.
 70207. No. 7576. Peiyinhu.
 70208. No. 7580. Tungkouchen, Kirin Province.
 70209. No. 7584. Hengshengpu, Heilungkiang Province.
 70210. No. 7588. Yungchingweitzu.
 70211. No. 7592. Pataohotzu, Kirin Province.
 70212. No. 7596. Pachiatzu.
 70213. No. 7600. Shuanghochén, Kirin Province.
 70214. No. 7604. Itung.
 70215. No. 7608. Hsinglungtun.
 70216. No. 7965. Chitamu, Kirin Province.

69932 to 70253—Continued.

70217. No. 7971. *Langchiasaokuo*, Kirin Province.
 70218. No. 7975. *Wuchiatzu*.
 70219. No. 7980. *Wangkuei*.
 70220. No. 7982. *Peianchen*, Heilungkiang Province.
 70221. No. 7988. *Sanhsing*.
 70222. No. 7989. *Yinmahò*, Kirin Province.
 70223. No. 7993. *Tiehlingho*.
 70224. No. 7997. *Shihtun*.
 70225. No. 8002. *Huayuan*.
 70226. No. 8007. *Pamientung*, Kirin Province.
 70227. No. 8016. *Wuchiachan*.
 70228. No. 8018. *Shuangfengchuan*, Kirin Province.
 70229. No. 8021. *Chichangchen*, Kirin Province.
 70230. No. 8029. *Wulihotzu*, Kirin Province.
 70231. No. 8033. *Kaoantsun*.
 70232. No. 8038. *Chinghochén*, Heilungkiang Province.
 70233. No. 8041. [No locality given.]
 70234. No. 8046. *Shalanchen*, Kirin Province.
 70235. No. 8050. *Liangchiatzu*, Kirin Province.
 70236. No. 8055. *Kuku*, Heilungkiang Province.
 70237. No. 8060. *Suihua*.
 70238. No. 8069. *Hsinchan*, Heilungkiang Province.
 70239. No. 8072. *Tungchiang*.
 70240. No. 8076. *Mulanchen*, Heilungkiang Province.
 70241. No. 8079. *Chuchichuan*, Kirin Province.
 70242. No. 8085. *Wutaitzu*.
 70243. No. 8090. *Tungfossu*, Kirin Province.
 70244. No. 8100. *Changshanpu*, Heilungkiang Province.
 70245. No. 8102. *Kaomaotzu*.
 70246. No. 8106. *Weishaho*, Kirin Province.
 70247. No. 8112. *Tungning*, Kirin Province.
 70248. No. 8117. *Kangyao*, Kirin Province.
 70249. No. 8123. *Chiapanchan*, Kirin Province.
 70250. No. 8124. *Shangmalanho*, Kirin Province.
 70251. No. 8129. *Tungchingcheng*, Kirin Province.
 70252. No. 8132. *Yapuli*, Kirin Province.
 70253. No. 8137. *Fatehamiu*, Kirin Province.

70254 to 70281.

From China. Seeds and scions collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received December 22, 1926.

70254. *CASTANEA HENRYI* Rehd. and Wils. Fagaceae. Chestnut.

No. 867. *Tuk lut tsz* (solitary chestnut seed). Seeds obtained from a tree at Chinghwasbaan, Anhwei Province. November 2, 1926. A Chinese chestnut which, as described in *Plantae Wilsonianae* (vol. 3, p. 196), is a deciduous tree 25 to 90 feet tall, with oblong-lanceolate, long-acuminate leaves, green on both sides. The burs are either solitary or two or three in a bunch and contain usually but one nut.

For previous introduction see No. 66036.

70255. *CITRUS ICHANGENSIS* Swingle. Rutaceae. Ichang lemon.

No. 871. Seeds from fruits obtained in the market at Nanking and said to have originally come from Kinkiang. November, 1926. *Heung iuen*. A spiny shrub or small tree 5 to 15 feet high, native to central and southwestern China. It differs from other members of the genus chiefly in its large, thick seeds and its slender leaves, which are four to six times longer than broad. It is also one of the hardest species of *Citrus* known. The fruits are very seedy and quite acid.

For previous introduction see No. 62349.

70256 to 70275. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

Scions of locally-grown varieties from Anhwei Province.

70256 to 70258. Mission Hospital Compound, Luchowfu. October 9, 1926.

70256. No. 731. Tree No. 6.

70257. No. 732. Tree No. 7.

70258. No. 733. Tree No. 12.

70259 to 70262. Seedless varieties from the garden of A. C. Bro, Luchowfu. October 10, 1926.

70259. No. 734. Tree No. 1.

70260. No. 735. Tree No. 2.

70261. No. 736. Tree No. 4.

70262. No. 737. Tree No. 5.

70263. No. 739. Shuching. October 13, 1926. *Hung shiu laat tsu*. A small, subglobular, seedless or few-seeded early variety with sweet flesh fairly free from fibers. The fruits are ripened artificially, becoming bright red.

70264. No. 740. Shuching. October 13, 1926. *Shiu sz paan tsz tsz*. A seedless squarish variety.

70265. No. 741. Shuching. October 13, 1926. *Hop tsz, kuan hop tsz*. The very large, flattened, squarish fruits are ripened artificially, becoming pale yellow. They are seedless or few-seeded and the flesh is very coarse and stringy, but of fair flavor. This variety is characterized by a constriction about the middle of the fruit.

70254 to 70281—Continued.

70266. No. 742. Shuching. October 13, 1926. *Maan tau tsz tsz*. A large midseason variety with sub-globular fruits which are few-seeded to seedless and have flesh of good flavor and quality. They are deep orange when ripe, rather squarish, and the apex is full to slightly raised or sometimes a little depressed. Near the calyx end of the fruits the pith is large and there appears an irregular depressed collar.

70267. No. 743. Shuching. October 13, 1926. *Pin tsz tsz*. A midseason variety producing large flattened, squarish few-seeded fruits, red-orange when ripe, with flesh of good quality and flavor.

70268. No. 744. Shuching. October 13, 1926. *Taai tso hang tsz tsz*. A variety with medium-sized, oval fruits, seedless or few-seeded, which must be ripened artificially. The flesh is of excellent flavor and quality, and the skin is thin and bright red when ripe. Another name for this variety is "big red-pepper persimmon."

70269. No. 751. Chungmuiohoh. October 17, 1926. *Shui paan tsz tsz*.

70270. No. 752. Chungmuiohoh. *Pin tsz tsz*. A late variety producing flattened, squarish fruits with the apex slightly depressed. They are seedless or few-seeded, with flesh of fine quality and flavor. At the time this bud wood was collected, October 17, 1926, the foliage of the tree was fresh and green, free from all disease, and had not commenced to fall.

70271. No. 755. Taaihohhan. October 19, 1926. *Hop tsz tsz*. The fruits of this variety are the same as those described under No. 741 [No. 70265]. They attain large dimensions, one specimen being over 4 inches in diameter. The tree is also larger than the varieties commonly found.

70272. No. 756. Taaihohhan, near the Tin River. October 22, 1926. *Paan ting tsz tsz*. A very late variety, free from disease, which keeps until April in this latitude if the branches with the fruit attached are hung up indoors. The large, square fruits, with a long-pointed square apex, are seedless, and the firm mealy flesh is of fine flavor.

70273. No. 765. Chinhwashaan. November 3, 1926. A small wild tree about 3 meters high, apparently pistillate, though the fruits were not seen.

70274. No. 766. Chinhwashaan. November 3, 1926. A small wild tree which apparently bears some staminate flowers.

70275. No. 767. Chinhwashaan. November 3, 1926. A small wild tree about 3 meters high which is apparently purely staminate.

70276. *Diospyros lotus* L. *Diospyraceae*. **Persimmon.**

No. 757. Near Taaihohhan, Anhwei Province. October 24, 1926. *Tsz tso*. Scions of a large tree, apparently a seed-

70254 to 70281—Continued.

ling, 15 meters high and 25 centimeters in diameter. The seedless fruits, with which the branches were heavily laden, are dried for winter use. The action of frost removes the astringency, and the flavor is very good. The local name means "persimmon date."

70277 to 70280. *SALIX* spp. *Salicaceae*. **Willow.**

Scions of trees growing in Anhwei Province.

70277. *SALIX* sp.

No. 761. Near Cannon Base Peak. October 27, 1926. *Tsing ning lan, pa to lan*. An ornamental tree with slender, slightly drooping branchlets and narrow leaves, growing along the streams in this locality and sometimes cultivated near ponds.

70278. *SALIX* sp.

No. 762. Cannon Base Rock. October 27, 1926. *Hung nga lan*. A rather rare willow, distinguished by red buds.

70279. *SALIX* sp.

No. 763. Pawongkaai. October 27, 1926. *Paak yeung lan*. Trees cultivated near a pond. Willow branches are extensively used in Anhwei Province to make baskets, and this species is said to be the one used.

70280. *SALIX* sp.

No. 764. Near Tungchen. October 28, 1926. *Mo yeung lan*. An uncommon willow, 3 meters high, growing wild on the bank of a pond. The young twigs are heavy and covered with a dense pale bluff tomentum.

70281. *ZIZIPHUS* sp. *Rhamnaceae*. **Jujube.**

No. 715. Shuching, Anhwei Province. October 13, 1926. Plants of a variety said to be the only one in Shuching which produces large fruits.

70282 to 70313.

From Manchuria. Seeds and scions obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December, 1926. Locality notes by Mr. Dorsett.

70282 to 70295. *HORDEUM VULGARE* PAL-LIDUM Seringe. *Poaceae*.

Six-rowed barley.

Received through the cooperation of D. McLorn, Postal Commissioner, Harbin. September, 1926.

70282. No. 7280. From Santaokan, Kirin Province.

70283. No. 7284. From Andachan.

70284. No. 7331. From Manchiatien, Kirin Province.

70285. No. 7339. From Heishihchen, Kirin Province.

70286. No. 7359. From Lanhsi.

70287. No. 8259. From Fuchin, Kirin Province.

70288. No. 8314. From Taerha, Heilungkiang Province.

70289. No. 8317. From Shihchienfang, Heilungkiang Province.

70282 to 70313—Continued.

70290, No. 8330. From Sanchienfang.

70291, No. 8339. From Suchiawapu.

70292, No. 8382. From Hulauchichang, Kirin Province.

70293, No. 8573. From Shiherchingtzu, Heilungkiang Province.

70294, No. 8583. From Maohsing, Heilungkiang Province.

70295, No. 8611. From Chingchilatai.

70296 to 70307, *ORYZA SATIVA* L. Poaceae. Rice.

Seeds obtained from the experimental field of the Chinese Eastern Railway, through F. F. Terentief, director of the land department, Chinese Eastern Railway.

70296, No. 8487. *Hao tao tzu* No. 19 (good rice No. 19).70297, No. 8488. *Su ping shih yie*.70298, No. 8489. *Ta shengomaow*.70299, No. 8490. *Kuangtung tao tzu* (Canton rice).70300, No. 8491. *Hung gomaow* No. 2.70301, No. 8492. *Hao tao tzu* No. 32 (good rice No. 32).70302, No. 8493. *Shui shih yen tao*.70303, No. 8494. *Hao tao tzu* No. 41 (good rice No. 41).70304, No. 8495. *Chang chun ah wulssu*.70305, No. 8496. *Hao tao tzu* No. 13 (good rice No. 13).70306, No. 8497. *Chieh lin ko*.70307, No. 8498. *Hung gomaow* No. 1.70308, *MALUS* sp. Malaceae. Crab apple.

No. 4813. Scions obtained from the agricultural experiment station, Harbin, through the Chinese Eastern Railway. Originally from Hudranoff. November 22, 1925.

70309 to 70313, *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.

Common wheat.

Received through the cooperation of D. McLorn, Postal Commissioner, Harbin.

70309, No. 7387. From Shihchuan-chen, Heilungkiang Province.

70310, No. 8198. From Kemiba.

70311, No. 8204. From Tetuchen, Heilungkiang Province.

70312, No. 8254. From Tuipochan, Kirin Province.

70313, No. 8384. From Lopei, Heilungkiang Province.

70314 to 70316.

From Nanking, China. Seeds purchased through J. H. Reisner, College of Agriculture and Forestry, University of Nanking. Received December 27, 1926.

70314 and 70315, *CASTANEA MOLLISSIMA* Blume. Fagaceae. Hairy chestnut.

Hardy trees, native to northeastern China, which bear edible nuts.

70314, No. 1.

70315, No. 2.

70314 to 70316—Continued.

70316, *JUGLANS REGIA* L. Juglandaceae. Walnut.

Chinese-grown nuts from Nanking.

70317, *CASTANEA SEGUINII* Dode. Fagaceae. Chestnut.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received December 27, 1926.

No. 700. Chihwashaan, Anhwei. November, 1926. *Mo lut tsz*. A Chinese chestnut, native to east-central China, which is usually a bush or low tree, but occasionally a shapely tree up to 40 feet in height, with deep-green leaves, paler beneath, and small nuts of sweet agreeable flavor.

For previous introduction see No. 66038.

70318, *CAJANUS INDICUS* Spreng. Fabaceae. Pigeon pea.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, director, Agricultural Experiment Station. Received December 20, 1926.

Locally grown seeds.

70319 to 70321, *CASTANEA* spp. Fagaceae. Chestnut.

From Nanking, China. Seeds purchased through J. H. Reisner, College of Agriculture and Forestry, University of Nanking. Received December 27, 1926.

70319 and 70320, *CASTANEA HENRYI* (Skan) Rehd. and Wils.

For previous introduction and description see No. 70254.

70319, No. 1. 70320, No. 2.

70321, *CASTANEA SEGUINII* Dode.

For previous introduction and description see No. 70317.

70322 to 70336, *PRUNUS AVIUM* L. Amygdalaceae. Sweet cherry.

From Milan, Italy. Plants purchased from Fratelli Ingegnoli. Received December 30, 1926.

Italian sweet-cherry varieties, not in the trade in the United States.

70322, *Bella di Barbanti*.70323, *Bella di Toscana*.70324, *Bianco Grosso*.70325, *Bianco rosato di Piemonte*.70326, *Morreau*.70327, *Napolitana*.70328, *Nero di Tarcento*.70329, *Nero di Winkler*.70330, *Olivo*.70331, *Ciliegio duracino gigante (Nuovo)*.70332, *Bicenfenaria*.70333, *Inglese precoce*.70334, *Nera grossa di Piemonte*.70335, *Regina ortensia*.70336, *Rossa grossa di Piemonte*.

70337 to 70688.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December, 1926.

Nos. 70337 to 70437 were received through the cooperation of D. McLorn, Postal Commissioner, Harbin.

70337 to 70339. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Fabaceae.
Adzuki bean.

70337. No. 8304. From Huapichang, Kirin Province.

70338. No. 8580. From Lienhuachen, Heilungkiang Province.

70339. No. 8593. From Tahuangti, Kirin Province.

70340 to 70412. PHASEOLUS AUREUS Roxb. Fabaceae.
Mung bean.

70340. No. 7279. From Santaokan, Kirin Province.

70341. No. 7283. From Andachan.

70342. No. 7287. From Anda, Heilungkiang Province.

70343. No. 7291. From Chalukoupei.

70344. No. 7295. From Hsiachintai.

70345. No. 7299. From Chihntoucheng-tzu Station.

70346. No. 7303. From Lal'incheng, Kirin Province.

70347. No. 7307. From Changlingtzu, Kirin Province.

70348. No. 7311. From Mientuho.

70349. No. 7315. From Huanghuatien-tzu, Kirin Province.

70350. No. 7319. From Ssuhocheng.

70351. No. 7323. From Hsilingho, Kirin Province.

70352. No. 7326. From Changchun-chen, Heilungkiang Province.

70353. No. 7330. From Manchiatien, Kirin Province.

70354. No. 7334. From Pataokou, Kirin Province.

70355. No. 7338. From Heishihchen, Kirin Province.

70356. No. 7342. From Wuchangpu, Kirin Province.

70357. No. 7346. From Santaokan, Kirin Province.

70358. No. 7350. From Wulachieh.

70359. No. 7354. From Wentungshan, Kirin Province.

70360. No. 7358. From Lanhsi.

70361. No. 7362. From Chinghochan.

70362. No. 7365. From Hsichiching.

70363. No. 7369. From Tienusaokang, Heilungkiang Province.

70364. No. 7373. From Ertatou.

70365. No. 7377. From Shenchlowopu, Heilungkiang Province.

70366. No. 7381. From Shatzu, Kirin Province.

70367. No. 7389. From Changanpu, Kirin Province.

70368. No. 7396. From Yingchengtzu, Kirin Province.

70337 to 70688—Continued.

70369. No. 8140. From Chuchienwu, Kirin Province.

70370. No. 8145. From Lungmenchen, Heilungkiang Province.

70371. No. 8151. From Mulantaho, Heilungkiang Province.

70372. No. 8154. From Nungnungho.

70373. No. 8158. From Liangchuchen, Kirin Province.

70374. No. 8160. From Hsiao Chengtzu.

70375. No. 8165. From Keshan.

70376. No. 8169. From Lintien.

70377. No. 8174. From Kouchientun, Kirin Province.

70378. No. 8177. From Hala, Heilungkiang Province.

70379. No. 8185. From Omu, Kirin Province.

70380. No. 8190. From Chulien, Heilungkiang Province.

70381. No. 8197. From Paiyangmu, Heilungkiang Province.

70382. No. 8201. From Kemiha.

70383. No. 8213. From Kayaho, Kirin Province.

70384. No. 8217. From Keikotu, Kirin Province.

70385. No. 8219. From Taihochan (Changling), Kirin Province.

70386. No. 8221. From Huashulintzu, Kirin Province.

70387. No. 8228. From Changling, Kirin Province.

70388. No. 8232. From Mulingchan, Kirin Province.

70389. No. 8237. From Huahsingchen, Kirin Province.

70390. No. 8244. From Haifangchen, Heilungkiang Province.

70391. No. 8249. From Peichengchen, Kirin Province.

70392. No. 8250. From Talai, Heilungkiang Province.

70393. No. 8253. From Tuipochan, Kirin Province.

70394. No. 8258. From Fuchin, Kirin Province.

70395. No. 8263. From Mulau, Heilungkiang Province.

70396. No. 8267. From Tunganpei.

70397. No. 8270. From Chinyinpiekuotzu, Kirin Province.

70398. No. 8272. From Hsiao Chingtzu, Kirin Province.

70399. No. 8278. From Huma, Heilungkiang Province.

70400. No. 8281. From Chialuho, Kirin Province.

70401. No. 8284. From Changchunling, Kirin Province.

70402. No. 8287. From Tasanchiatzu.

70403. No. 8294. From Piaohokoutzu, Kirin Province.

70337 to 70688—Continued.

70404. No. 8296. From Ertaihan, Heilungkiang Province.
70405. No. 8300. From Lafachan, Kirin Province.
70406. No. 8305. From Huapichang, Kirin Province.
70407. No. 8311. From Liaotientzu, Kirin Province.
70408. No. 8315. From Taerha, Heilungkiang Province.
70409. No. 8318. From Shihchienfang, Heilungkiang Province.
70410. No. 8320. From Tungnanchen, Heilungkiang Province.
70411. No. 8326. From Suiyuan, Kirin Province.
70412. No. 8327. From Kutientzu, Kirin Province.
70413. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.
No. 8329. From Sanchienfang.
- 70414 to 70437. *PHASEOLUS ACREUS* Roxb. Fabaceae. Mung bean.
70414. No. 8331. From Sanchienfang.
70415. No. 8340. From Suchiawapu.
70416. No. 8342. From Sanlingtun, Kirin Province.
70417. No. 8347. From Maoershan.
70418. No. 8366. From Chiuchan, Kirin Province.
70419. No. 8371. From Huyen, Kirin Province.
70420. No. 8374. From Kuanynshan, Heilungkiang Province.
70421. No. 8385. From Lopei, Heilungkiang Province.
70422. No. 8390. From Kaoshantung, Kirin Province.
70423. No. 8391. From Mingshenhsien.
70424. No. 8397. From Tungkuanchen, Heilungkiang Province.
70425. No. 8562. From Wanpaoshan, Kirin Province.
70426. No. 8569. From Wanchinta.
70427. No. 8571. From Shiherschingtzu, Heilungkiang Province.
70428. No. 8574. From Lohushan.
70429. No. 8581. From Lienhuachen, Heilungkiang Province.
70430. No. 8585. From Maohsing, Heilungkiang Province.
70431. No. 8588. From Solunchan, Heilungkiang Province.
70432. No. 8589. From Yuanpaochen.
70433. No. 8595. From Hsiaoyushu, Heilungkiang Province.
70434. No. 8600. From Shihermachiatze, Kirin Province.
70435. No. 8605. From Chihsingho.
70436. No. 8610. From Chingchiatai.
70437. No. 8614. From Chingchiatai.

70337 to 70688—Continued.

70438. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.
No. 8619. From the Chinese Eastern Railway experimental field, through F. Terentief, director of the land department, Chinese Eastern Railway.
- Numbers 70439 to 70532 were received through the cooperation of D. McLorn, Postal Commissioner, Harbin.
- 70439 to 70452. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.
70439. No. 7385. From Shichuanchen, Heilungkiang Province.
70440. No. 8186. From Motzusanching, Heilungkiang Province.
70441. No. 8200. From Kemiha.
770442. No. 8206. From Tetuchen, Heilungkiang Province.
70443. No. 8355. From Tuipochan, Kirin Province.
70444. No. 8268. From Chinyinpieh kuotzu, Kirin Province.
70445. No. 8275. From Hsiaoehingtzu.
70446. No. 8293. Piaohokoutzu, Kirin Province.
70447. No. 8321. From Tungnanchen, Heilungkiang Province.
70448. No. 8335. From Changchiati-yingtzu, Heilungkiang Province.
70449. No. 8348. From Maoershan.
70450. No. 8387. From Kaoshantung, Kirin Province.
70451. No. 8398. From Tungkuanchen, Heilungkiang Province.
70452. No. 8566. From Wauchinta.
- 70453 to 70572. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.
70453. No. 7281. From Santaokan, Kirin Province.
70454. No. 7285. From Andachan.
70455. No. 7289. From Anda, Heilungkiang Province.
70456. No. 7293. From Chalukoupei.
70457. No. 7297. From Hsiachintai.
70458. No. 7301. From Shihouchengtzu Station.
70459. No. 7305. Lalincheng, Kirin Province.
70460. No. 7309. From Chilingtzu, Kirin Province.
70461. No. 7313. From Mientuho.
70462. No. 7317. From Huanghuatientszu, Kirin Province.
70463. No. 7321. From Ssuhoching.
70464. No. 7328. From Changchun, Heilungkiang Province.
70465. No. 7332. From Manchiatien, Kirin Province.
70466. No. 7336. From Pataokou, Kirin Province.
70467. No. 7340. From Heishichen, Kirin Province.

70337 to 70688—Continued.

70468. No. 7344. From Wuchangpu, Kirin Province.
 70469. No. 7348. From Santaokang, Kirin Province.
 70470. No. 7352. From Wulachieh.
 70471. No. 7356. From Yentungshan, Kirin Province.
 70472. No. 7360. From Lanhsi.
 70473. No. 7364. From Chinghochon.
 70474. No. 7367. From Hsichichang.
 70475. No. 7371. From Tientsaokang, Heilungkiang Province.
 70476. No. 7375. From Ertatou.
 70477. No. 7379. From Shenchowopu, Heilungkiang Province.
 70478. No. 7383. From Mishatzu, Kirin Province.
 70479. No. 7386. From Shihchuanchen, Heilungkiang Province.
 70480. No. 7391. From Changanpu, Kirin Province.
 70481. No. 7394. From Suileng.
 70482. No. 7398. From Yingchengtzu, Kirin Province.
 70483. No. 8142. From Chiuchienwu, Kirin Province.
 70484. No. 8147. From Lungmenchen, Heilungkiang Province.
 70485. No. 8148. From Mulantaho, Heilungkiang Province.
 70486. No. 8153. From Nungnungho.
 70487. No. 8159. From Liangchunchen, Kirin Province.
 70488. No. 8163. From Hsiaochengtzu.
 70489. No. 8164. From Keshan.
 70490. No. 8170. From Lintien.
 70491. No. 8173. From Kouchientun, Kirin Province.
 70492. No. 8179. From Hala, Heilungkiang Province.
 70493. No. 8182. From Omu, Kirin Province.
 70494. No. 8189. From Motzusanching, Heilungkiang Province.
 70495. No. 8191. From Chulien, Heilungkiang Province.
 70496. No. 8196. From Paiyangmu, Heilungkiang Province.
 70497. No. 8205. From Tetuchen, Heilungkiang Province.
 70498. No. 8210. From Kayaho, Kirin Province.
 70499. No. 8216. From Feikotu, Kirin Province.
 70500. No. 8218. From Taihochenchangling.
 70501. No. 8223. From Huashulintzu, Kirin Province.
 70502. No. 8225. From Changling, Kirin Province.
 70503. No. 8231. From Mulingchan, Kirin Province.

70337 to 70688—Continued.

70504. No. 8238. From Huahsingchen, Kirin Province.
 70505. No. 8239. From Tabeiha, Heilungkiang Province.
 70506. No. 8245. From Haifengchen, Heilungkiang Province.
 70507. No. 8248. From Peichengchen, Kirin Province.
 70508. No. 8251. From Talai, Heilungkiang Province.
 70509. No. 8257. From Fuchin, Kirin Province.
 70510. No. 8262. From Mulan, Heilungkiang Province.
 70511. No. 8265. From Tunganpei.
 70512. No. 8277. From Huma, Heilungkiang Province.
 70513. No. 8282. From Chiolubo, Kirin Province.
 70514. No. 8285. From Changchunling, Kirin Province.
 70515. No. 8290. From Tasanchiatzu.
 70516. No. 8298. From Entaichan, Heilungkiang Province.
 70517. No. 8302. From Kafachan, Kirin Province.
 70518. No. 8306. From Huapichang, Kirin Province.
 70519. No. 8310. From Liaotientzu, Kirin Province.
 70520. No. 8312. From Taerha, Heilungkiang Province.
 70521. No. 8319. From Shihchienfang, Heilungkiang Province.
 70522. No. 8325. From Suiyuan, Kirin Province.
 70523. No. 8328. From Kutientzu, Kirin Province.
 70524. No. 8336. From Changchiatiyingtzu, Heilungkiang Province.
 70525. No. 8338. From Suchiawapu.
 70526. No. 8341. From Sanlingtun, Kirin Province.
 70527. No. 8367. From Chiuchan, Kirin Province.
 70528. No. 8370. From Huyen, Kirin Province.
 70529. No. 8375. From Kuanyinshan, Heilungkiang Province.
 70530. No. 8378. From Chaoyangchen, Heilungkiang Province.
 70531. No. 8386. From Lopei, Heilungkiang Province.
 70532. No. 8392. From Mingshenhsien.

Numbers 70533 to 70558 are varieties that were obtained from the Chinese Eastern Railway experimental field, through F. F. Terentief, director of the land department.

70533. No. 8399. *Huei lu tou* (gray and green beans).
 70534. No. 8400. *Chang li shen lu tou* (long-seeded dark-green bean).
 70535. No. 8401. *Hung chi chin huang tou* (red eye golden yellow bean).

70337 to 70688—Continued.

70536. No. 8402. *Hachiharhatai*.
 70537. No. 8403. *Ssu li huang* (four-seeded yellow).
 70538. No. 8404. *Ta li chi huang tou* (large brown eye yellow bean).
 70539. No. 8405. *Li chi shen lu ton* (brown eye dark green bean).
 70540. No. 8406. *Shen hui lu tou* (dark gray and green bean).
 70541. No. 8407. *Teng tien hei chi* (Mukden black eye).
 70542. No. 8408. *Ta hei tou* (large black bean).
 70543. No. 8409. *Pien li hei tou* (flat-seeded black bean).
 70544. No. 8410. *Hsiao wu hei tou* (small dull-black bean).
 70545. No. 8411. *Kung chu ling wang hsien ko hei shih*.
 70546. No. 8412. *Hei cha tou* (black tea bean).
 70547. No. 8413. *Yi hao anda*.
 70548. No. 8414. *Hung hua cha tou* (red flower tea bean).
 70549. No. 8415. *Hsiao hung chi huang tou* (small red eye yellow bean).
 70550. No. 8416. *Ta hei chi ta huang tou* (large black eye yellow bean).
 70551. No. 8417. *Chu yen tou* (pig eye bean).
 70552. No. 8418. *Hsiao hei chi huang tou* (small black eye yellow bean).
 70553. No. 8419. *Hsiao kiang hei tou* (small bright black bean).
 70554. No. 8420. *Piao li ching* (green skin and flesh).
 70555. No. 8421. *Piao li ching* (green skin and flesh).
 70556. No. 8422. *Wu ching tou* (black bean).
 70557. No. 8423. *Ssu li huang* (four-seeded yellow).
 70558. No. 8424. *Li chi hsiao huang tou* (brown eye small yellow bean).

Nos. 70559 to 70652 were obtained through D. McLorn, Postal Commissioner, Harbin.

70559. No. 8563. From Wanpaoshan, Kirin Province.
 70560. No. 8572. From Shiherchingtzu, Heilungkiang Province.
 70561. No. 8575. From Lohushan.
 70562. No. 8579. From Lienhuachen, Heilungkiang Province.
 70563. No. 8584. From Maohsing, Heilungkiang Province.
 70564. No. 8587. From Solunshan, Heilungkiang Province.
 70565. No. 8590. From Yuanpaochen.
 70566. No. 8591. From Tahuangti, Kirin Province.
 70567. No. 8596. From Hsiaoyushu, Heilungkiang Province.

70337 to 70688—Continued.

70568. No. 8601. From Shihermachiatze, Kirin Province.
 70569. No. 8603. From Chihsingho.
 70570. No. 8607. From Tachiakou, Kirin Province.
 70571. No. 8613. From Chingchiatai.
 70572. No. 8616. From Santaokang, Kirin Province.
 70573 to 70652. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.
 Common wheat.
 70573. No. 7282. From Santaokang, Kirin Province.
 70574. No. 7286. From Andachan.
 70575. No. 7290. From Anda, Heilungkiang Province.
 70576. No. 7294. From Chalukoupei.
 70577. No. 7302. From Shihtoucheng-tzu.
 70578. No. 7306. From Lalincheng, Kirin Province.
 70579. No. 7310. From Changlingtzu, Kirin Province.
 70580. No. 7314. From Mientuho.
 70581. No. 7318. From Huanghuatien-tzu, Kirin Province.
 70582. No. 7322. From Ssuboching.
 70583. No. 7325. From Hsiliho, Kirin Province.
 70584. No. 7329. From Changchun-chen, Heilungkiang Province.
 70585. No. 7333. From Manchiatien, Kirin Province.
 70586. No. 7337. From Pataokou, Kirin Province.
 70587. No. 7341. From Heishihchen, Kirin Province.
 70588. No. 7345. From Wuchangpu, Kirin Province.
 70589. No. 7349. From Santaokang, Kirin Province.
 70590. No. 7353. From Wulachieh.
 70591. No. 7357. From Yentungshuan, Kirin Province.
 70592. No. 7361. From Lanhsi.
 70593. No. 7364. From Chinghochien.
 70594. No. 7368. From Hsichichang.
 70595. No. 7372. From Tientsaokang.
 70596. No. 7376. From Ertatou.
 70597. No. 7380. From Shenchowopu, Heilungkiang Province.
 70598. No. 7392. From Changanpu, Kirin Province.
 70599. No. 7395. From Sulleng.
 70600. No. 8146. From Lungmenchen, Heilungkiang Province.
 70601. No. 8150. From Mulantaho, Heilungkiang Province.
 70602. No. 8155. From Nungnungho.
 70603. No. 8157. From Liangchuchen, Kirin Province.

70337 to 70688—Continued.

70604. No. 8162. From Hsiao Chengtzu.
 70605. No. 8167. From Keshan.
 70606. No. 8171. From Lintien.
 70607. No. 8172. From Kouchientien, Kirin Province.
 70608. No. 8178. From Hala, Heilungkiang Province.
 70609. No. 8180. From Jananour, Heilungkiang Province.
 70610. No. 8184. From Omu, Kirin Province.
 70611. No. 8187. From Motzusanching, Heilungkiang Province.
 70612. No. 8192. From Chulien, Heilungkiang Province.
 70613. No. 8194. From Paiyangmu, Heilungkiang Province.
 70614. No. 8203. From Mohohsien.
 70615. No. 8211. From Kayaho, Kirin Province.
 70616. No. 8214. From Felkotu, Kirin Province.
 70617. No. 8220. From Taihochan, Kirin Province.
 70618. No. 8224. From Huashulintzu, Kirin Province.
 70619. No. 8229. From Mulingchan, Kirin Province.
 70620. No. 8234. From Yalu, Heilungkiang Province.
 70621. No. 8236. From Chuerkanho.
 70622. No. 8241. From Taheho, Heilungkiang Province.
 70623. No. 8242. From Haifengchen, Heilungkiang Province.
 70624. No. 8247. From Peichengcheu, Kirin Province.
 70625. No. 8260. From Fuchin, Kirin Province.
 70626. No. 8261. From Mulau, Heilungkiang Province.
 70627. No. 8266. From Tunganpei.
 70628. No. 8269. From Chinyinplehkuotzu, Kirin Province.
 70629. No. 8274. From Hsiao Chengtzu, Kirin Province.
 70630. No. 8279. From Huma, Heilungkiang Province.
 70631. No. 8283. From Chioluh, Kirin Province.
 70632. No. 8292. From Piaohokoutzu, Kirin Province.
 70633. No. 8297. From Ertaihan, Heilungkiang Province.
 70634. No. 8299. From Lafachan, Kirin Province.
 70635. No. 8309. From Liaotientzu, Kirin Province.
 70636. No. 8313. From Taerha, Heilungkiang Province.
 70637. No. 8316. From Shihchienfang, Heilungkiang Province.
 70638. No. 8322. From Fungnanchen, Heilungkiang Province.

70337 to 70688—Continued.

70639. No. 8324. From Suiyuan, Kirin Province.
 70640. No. 8332. From Sanchienfang.
 70641. No. 8333. From Changchiati-yingtzu, Heilungkiang Province.
 70642. No. 8337. From Suchiawopu.
 70643. No. 8343. From Sanlingtun, Kirin Province.
 70644. No. 8346. From Maershan.
 70645. No. 8365. From Chiuchan, Kirin Province.
 70646. No. 8368. From Huyen, Kirin Province.
 70647. No. 8373. From Kuanyinshan, Heilungkiang Province.
 70648. No. 8377. From Chaoyangchen, Heilungkiang Province.
 70649. No. 8379. From Hulanchichang, Kirin Province.
 70650. No. 8388. From Kaoshantung, Kirin Province.
 70651. No. 8394. From Mingshihsien.
 70652. No. 8396. From Tungkuanchen, Heilungkiang Province.
 70653 to 70688. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.
 Common wheat.

Nos. 70653 to 70677 were received through F. F. Terentief, director of the land department, Chinese Eastern Railway, from the experimental field at Harbin of the Chinese Eastern Railway.

70653. No. 8425. *Kuan cheng tzu*.
 70654. No. 8426. *Feng tien*.
 70655. No. 8427. *Peking*.
 70656. No. 8428. *I mien po*.
 70657. No. 8429. *Wu chi mi ho*.
 70658. No. 8430. *Tulatai maitai*.
 70659. No. 8431. *Andah*.
 70660. No. 8432. *Hao mai tzu No. 3*.
 70661. No. 8433. *Hao mai tzu No. 18*.
 70662. No. 8434. *Lumanian*.
 70663. No. 8435. *San hsing*.
 70664. No. 8436. Russian wheat.
 70665. No. 8437. *Sha polo*.
 70666. No. 8438. *Ta fang shen*.
 70667. No. 8439. *Te lei chila*.
 70668. No. 8440. *Kung chu ling No. 23*.
 70669. No. 8441. *Kung chu ling No. 24*.
 70670. No. 8442. *Chapei kelashika*.
 70671. No. 8443. *Temalash techamula*.
 70672. No. 8444. *Bulaohsifka No. 53*.
 70673. No. 8445. *Tsai chia kou*.
 70674. No. 8446. *San cha ho*.
 70675. No. 8447. *Mu tan Chiang*.
 70676. No. 8449. *Shuang cheng pu*.
 70677. No. 8450. *Haoupo*.

Nos. 70678 to 70688 were received through D. McLorn, Postal Commissioner, Harbin.

70337 to 70688—Continued.

70678. No. 8568. From Wauchinta.
 70679. No. 8570. From Shiherschingtzu, Heilungkiang Province.
 70680. No. 8577. From Lowushan.
 70681. No. 8578. From Leinhuachen, Heilungkiang Province.
 70682. No. 8582. From Maohsing, Heilungkiang Province.
 70683. No. 8586. From Solunshan, Heilungkiang Province.
 70684. No. 8597. From Hsiaoyushu, Heilungkiang Province.
 70685. No. 8599. From Shihermacnia-tze, Kirin Province.
 70686. No. 8606. From Chihsingho.
 70687. No. 8609. From Tachiakou, Kirin Province.
 70688. No. 8617. From Santaokang, Kirin Province.

70689 to 70739. TRITICUM spp. Poaceae.

From Baghdad, Iraq. Seeds presented by the officiating inspector general of agriculture. Received December 20, 1926.

* Varieties developed in Iraq.

70689 to 70715. TRITICUM AESTIVUM L. (T. vulgare Vill.). Common wheat.

70689. No. 37. *Nigro-erythrospermum*.
 70690. No. 50. *Caesium*.
 70691. No. 68. *Nigro-erythrospermum*.
 70692. No. 69. *Pseudo-meridionale*.
 70693. No. 74. *Nigro*.
 70694. No. 79. *Hostianum*.
 70695. No. 76. *Pseudo-hostianum*.
 70696. No. 81. *Erythroleucon*.
 70697. No. 84. *Erythroleucon*.
 70698. No. 87. *Pseudo-erythroleucon*.
 70699. No. 91. *Ferrugineum*.
 70700. No. 92. *Ferrugineum*.
 70701. No. 94. *Pseudo-barbarossa*.
 70702. No. 99. *Pseudo-barbarossa*.
 70703. No. 155. *Campactum humboldtii*.
 70704. No. 156. *Albidum*.
 70705. No. 171. *Leucospermum*.
 70706. No. 176. *Velutinum*.
 70707. No. 193. *Alborubrum*.
 70708. No. 194. *Alborubrum*.
 70709. No. 200. *Milturum*.
 70710. No. 202. *Delfi*.
 70711. No. 219. *Sphaerococcum tumidum*.
 70712. No. 563. *Nigro-graecum*.
 70713. No. 568. *Nigro-graecum*.
 70714. No. 572. *Nigro-graecum*.
 70715. No. 596. *Nigro-graecum*.

70716. TRITICUM DICOCCUM DICOCCOIDES (Koern.) Aschers. and Graebn.

No. 766. Originally from Palestine.

70689 to 70739—Continued.

70717 to 70736. TRITICUM DURUM Desf. Durum wheat.

70717. No. 6. *Leucurum*.
 70718. No. 8. *Affine*.
 70719. No. 9. *Leucomelan*.
 70720. No. 10. *Leucomelan*.
 70721. No. 13. *Reichenbachii*.
 70722. No. 14. *Valenciale*.
 70723. No. 16. *Melanopus*.
 70724. No. 17. *Melanopus*.
 70725. No. 19. *Melanopus*.
 70726. No. 24. *Hordeiforme*.
 70727. No. 29. *Erythromelan*.
 70728. No. 30. *Erythromelan*.
 70729. No. 31. *Niloticum*.
 70730. No. 33. *Niloticum*.
 70731. No. 35. *Provinciale*.
 70732. No. 39. *Libycum*.
 70733. No. 41. *Libycum*.
 70734. No. 589. *Erythromelan*.
 70735. No. 591. *Apulicum*.
 70736. No. 613. *Hordeiforme*.

70737 to 70739. TRITICUM POLONICUM L. Polish wheat.

70737. No. 3. *Oriental notabile*.
 70738. No. 22. *Oriental notabile*.
 70739. No. 46. *Polonicum nigrobarbatum*.

70740. BAMBUSA VULGARIS Schrad. Poaceae. Bamboo.

From San Gabriel, Calif. Root presented by William Hertrich, San Marino ranch. Received February 7, 1920. Numbered December, 1926.

A handsome yellow-striped form of the well-known *Bambusa vulgaris*, grown throughout central Florida. It is more tender than *B. vulgaris* and will likely not withstand more than 2 or 3 degrees of frost. It should be grown in rather dry soil to secure the highest coloration.

70741. PHYLLOSTACHYS sp. Poaceae. Bamboo.

From Brooksville, Fla. Plants collected by R. A. Young, Bureau of Plant Industry. Received December 10, 1924. Numbered December, 1926.

A bamboo showing a peculiar zigzag growth of culms, found at the Plant Introduction Garden, Brooksville, Fla. It may be merely a freak, but has some potential interest as furnishing a possible source of walking sticks or canes.

70742. CLEMATIS FREMONTI S. Wats. Ranunculaceae. Fremont clematis.

From Paris, France. Plants presented by Vilmorin-Andrieux & Co. Received February 20, 1924. Numbered December, 1926.

A hardy herbaceous perennial up to 2 feet high, with oval sessile leaves 4 inches long and drooping purple flowers. Native to the western United States.

70743. CLEMATIS CHRYSOCOMA SERICEA
(Franch.) C. Schneid. Ranunculaceae.

From Paris, France. Plant obtained from Vilmorin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 26, 1926. Numbered December, 1926.

Variety *rosea*. An ornamental Chinese vine, about 20 feet high, with silky-hairy, rounded leaves and solitary or paired pinkish flowers, 3 to 4 inches in diameter.

For previous introduction see No. 63394.

70744 and 70745.

Bamboos growing on the grounds of the United States Department of Agriculture, Washington, D. C. Numbered December, 1926.

70744. PHYLLOSTACHYS AUREA Carr. Poaceae. Golden Japanese bamboo.

This bamboo has proved hardy in Washington for nearly 50 years. It has never reached more than 6 feet in height, probably because it is growing in poor soil. Under favorable conditions *Phyllostachys aurea* will grow to a height of 15 to 20 feet. The culms are yellowish and small, and the leaves are also small. It is a rather handsome ornamental but does not hold its green foliage in winter as well as some others.

70745. SASA JAPONICA (Sieb. and Zucc.). Makino. Poaceae. Bamboo.

This bamboo has flourished for nearly 50 years in Washington. It is one of the hardiest of all the bamboos, and is used extensively in landscape work as far north as Philadelphia. In parts of the South it is sometimes grown for light stakes. The plant has rather heavy foliage, the leaves being 8 to 12 inches long and 1 to 2 inches wide. It holds its green color well into the winter.

For previous introduction see No. 42651.

70746. RAPHA VINIFERA Beauv. Phoenicaceae. Palm.

From Peradeniya, Ceylon. Seeds collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 26, 1926. Numbered December, 1926.

No. 259. Botanic gardens, Peradeniya, January 1, 1926. The sugar or wine palm of West Tropical Africa. It is a large handsome palm with immense pinnate leaves and ornamental fruits in enormous pendent bunches 10 to 12 feet long. This is a striking species for large parks.

70747. STERCULIA DIVERSIFOLIA Don. Sterculiaceae. Black kurrajong.

From East Melbourne, Victoria, Australia. Seeds presented by M. Medson. Received July 17, 1920. Numbered December, 1926.

A tall evergreen ornamental tree with shining green foliage. In some parts of Australia, where the tree is native, the leaves are fed to cattle.

For previous introduction see No. 64001.

70748. CHRYSALIDOCARPUS LUCUBENSIS Beccari. Phoenicaceae. Palm.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received August 13, 1926. Numbered December, 1926.

A rather tall palm native to Madagascar, with elongated pinnate leaves composed of rigid swordlike segments up to 3 feet in length. The obovate fruits are about half an inch long.

For previous introduction see No. 51711.

70749. ACOKANTHERA SPECTABILIS (Sond.) Benth. Apocynaceae.

From Las Palmas, Canary Islands. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received August 19, 1925. Numbered December, 1926.

July 22, 1925. A tropical tree with beautiful foliage, cultivated on seashores in regions where there is no frost. The purple fruits contain a gum which may be valuable.

For previous introduction see No. 45748.

70750. ALEURITES FORDII Hemsl. Euphorbiaceae. Tung-oil tree.

From Anhwei Province, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received December 27, 1926.

No. 702. Chungmuhih. October 17, 1926. *Tung yau*. From a tree growing on a wooded slope. It receives little attention, and the yield is correspondingly poor.

70751 to 70753. ARACHIS HYPOGAEA L. Fabaceae. Peanut.

From Buitenzorg, Java. Seeds presented by Dr. L. Koch, Chief, Plant-Breeding Station for Annual Crops. Received October 25, 1926.

Locally grown seeds.

70751. Variety *Toebean*.

70752. *Pure line* No. 21.

70753. *White hybrid* No. 3.

70754. THYSANOLAENA MAXIMA (Roxb.) Kuntze (*T. agrostis* Nees). Poaceae. Grass.

From Peradeniya, Ceylon. Plants collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 19, 1926. Numbered December, 1926.

No. 873. Botanic gardens. June 9, 1926. A tropical ornamental grass 10 feet high.

70755 and 70756. CASTANEA spp. Fagaceae.

From the United States Plant Field Station, Bell, Md. Scions grafted on *Castanea crenata* seedlings.

70755. *CASTANEA HENRYI* (Skan) Rehd. and Wils. Chinese timber chinquapin.

70755 and 70756—Continued.

A native of central and western China, where it attains a height of 75 to 100 feet or more. It is reported as a fine timber tree, producing a nut much like our native chinquapin, but a little larger. The trees are from scions taken from a tree planted by the late Dr. Walter Van Fleet, Bell, Md., about 10 years ago. Doctor Van Fleet propagated the tree from a scion obtained from the Arnold Arboretum. All stock of this number is grafted on seedlings of the Japanese chestnut, *Castanea crenata*. The original tree of *C. henryi* at Bell has proved susceptible to blight. There is no record of blight on any of this species in China.

For previous introduction see No. 67173.

70756. *CASTANEA MOLLISSIMA* × *PUMILA*. Chestnut.

Van Fleet hybrid chestnut (S. S.). A hybrid between *Castanea mollissima*, the Chinese hairy chestnut, and *C. pumila*, the American chinquapin, produced by the late Dr. Walter Van Fleet, about 1915. The original and only tree is growing in the chestnut-tree orchard at Bell, Md. The tree is upright, vigorous, and healthy, never having shown any signs of blight. The nuts are about double the size of our native chestnut, very sweet, and palatable. Stock is from scions taken from the original tree and grafted on Japanese seedlings, *C. crenata*. Of the many chestnuts tested, including hybrids, this number is an outstanding one on account of the size and quality of its nuts and the large annual yields. It is especially promising for orchard plantings in the blight-affected districts.

70757. *ATTALEA MACROCARPA* Linden. *Phoenicaceae*. Palm.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received August 13, 1926. Numbered December, 1926.

A lofty South American palm with a spineless trunk, large pinnate leaves, and large clusters of fruits.

70758 to 70764.

From Peradeniya, Ceylon, and Singapore, Straits Settlements. Plants collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 19, 1926. Numbered December, 1926.

70758. *BROWNEA MACROPHYLLA* Masters. *Caesalpiniaceae*.

No. 886. Botanic gardens, Peradeniya. June 9, 1926. An ornamental tree whose limp flaccid pale yellowish young leaves and bright-rose flowers make it suitable for parks and gardens in the Tropics.

70759. *GARCINIA CAMBOGIA* (Gaertn.) Desr. *Clusiaceae*.

No. 895. Botanic gardens, Peradeniya. June 9, 1926. *Goraka*. During June and July the large orange-yellow fruits of this species are gathered and the segments into which the rind splits are dried in the sun, becoming black and very sour. These black segments are used to preserve fish, being made into a brine with salt and are also used instead of limes in curries. This may be valuable as a stock for the mangosteen.

70758 to 70764—Continued.

70760. *GARCINIA NIGRO-LINEATA* Planch. *Clusiaceae*.

No. 818. Botanic gardens, Singapore. May 31, 1926. A handsome park tree 40 feet high, with large leaves 6 to 8 inches long and small edible fruits.

For previous introduction see No. 68034.

70761. *IXORA MACROTHYRSA* Teysm. and Binn. *Rubiaceae*.

No. 832. Botanic gardens, Singapore. May 31, 1926. A shrub with corymbs of attractive scarlet flowers. It is accustomed to 100 inches of rainfall in this region.

70762. *MESUA FERREA* L. *Clusiaceae*.

No. 889. Botanic gardens, Peradeniya. June 9, 1926. The ironwood tree of Ceylon. A handsome street tree which produces large white magnoliolike flowers and twice a year young leaves that are extremely attractive because of their brilliant deep-pink color.

For previous introduction see No. 54687.

70763. *MONODORA TENUIFOLIA* Benth. *Anonaceae*.

No. 882. Botanic gardens, Peradeniya. June 9, 1926. *Orchid flower tree*. A tropical tree which before its leaves are fully formed produces an abundance of strangely beautiful spotted fragrant blossoms, reminding one of orchids. These blossoms quickly fade when picked and are therefore not suitable for household decoration, but the tree would grace any private garden in southern Florida.

70764. *STERCULIA LANCEOLATA* Cav. *Sterculiaceae*. Bottle tree.

No. 880. Botanic gardens, Peradeniya. June 9, 1926. A small tree with handsome bright orange-scarlet fruits.

70765. *CHAYOTA EDULIS* Jacq. (*Sechium edule* Swartz). *Cucurbitaceae*.

Chayote.

From Summit, Canal Zone. Fruits presented by Holger Johansen, Plant Introduction Garden. Received November 16, 1926.

Locally grown fruits.

70766 and 70767. *CHAYOTA EDULIS* Jacq. (*Sechium edule* Swartz). *Cucurbitaceae*. Chayote.

From Kingston, Jamaica. Fruits presented by E. Downes, acting superintendent, Hope gardens. Received December 27, 1926.

Locally grown fruits.

70766. Green variety.

70767. White variety.

70768. *CHAYOTA EDULIS* Jacq. (*Sechium edule* Swartz). *Cucurbitaceae*. Chayote.

From Moca, Dominican Republic. Fruits presented by Dr. R. Ciferri, Director, Estación Nacional Agronómica y Colegio de Agricultura. Received December 30, 1926.

Fruits grown in the Dominican Republic.

70769 and 70770. DIOSCOREA spp. Dioscoreaceae. Yam.

From Soerabaya, Java. Tubers obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 29, 1926. Numbered October, 1926.

70769. DIOSCOREA sp.

No. 788. May 17, 1926. Small, thin-skinned tubers obtained in the native market.

70770. DIOSCOREA sp.

No. 790. Obtained in the native market, May 17, 1926.

70771 and 70772. DIOSCOREA spp. Dioscoreaceae. Yam.

From San Pedro, Honduras. Tubers presented by H. A. Dike. Received November 17, 1926.

70771. DIOSCOREA sp.

A variety with prickly stems.

70772. DIOSCOREA sp.

A variety with yellow-fleshed tubers.

70773 to 70776. IPOMOEA BATATAS (L.) Poir. Convolvulaceae. Sweet potato.

From Buitenzorg, Java. Tubers presented by Dr. L. Koch, Chief, Plant-Breeding Station for Annual Crops. Received October 25, 1926.

Locally developed varieties.

70773. Variety Oebi Saboelan.**70774. Variety Oebi Samarinda.****70775. Variety Oebi Tandjoeng katt.****70776. Variety Oebi Menes bodas.****70777 and 70778.**

From Ceylon. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 26, 1926. Numbered December, 1926.

70777. ARECA TRIANDRA Roxb. Phoenicaceae. Palm.

No. 258. Peradeniya gardens. January 1, 1926. A pinnate slender-stemmed graceful palm 40 feet tall.

70778. PTICHOSPERMA sp. Phoenicaceae. Palm.

No. 251. Peradeniya gardens. January 1, 1926. A fan palm, not over 20 or 25 feet high, with clusters of graceful slender stems.

70779 and 70780.

From Sumatra. Seeds collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received April and May, 1926. Numbered December, 1926.

70779. (Undetermined.)

No. 689. Between Kabandjahe and Koto Tchane. March 20, 1926. A stunning ornamental, a foot and a half high, bearing red flower clusters the shape of a large club, with rows of coarse liplike scales. The flowers have the appearance of orchids.

70779 and 70780—Continued.**70780. (Undetermined.)**

No. 400. Berstagi. February 21, 1926. A small tree with small, rather narrow, long leaves and yellow fruits about the size of a pecan, with bright-red flesh surrounding an acornlike seed.

70781 to 70783.

From Ceylon and the Straits Settlements. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July, 1926. Numbered December, 1926.

70781. AMOMUM MAGNIFICUM (Roscoe) Benth. and Hook. Zinziberaceae.

No. 897. Peradeniya Botanic Gardens. June 9, 1926. A handsome plant with immense green pinnate leaves, 8 to 10 feet long, rising from a rhizome. The large pink flower heads are borne on erect stalks $2\frac{1}{2}$ to 3 feet high.

70782. STROMANTHE SANGUINEA Sond. Marantaceae.

No. 900. Peradeniya Botanic Gardens. A crimson-flowered plant from Brazil with broad leaves about a foot long, purple beneath. The flowers are borne on a scape up to 20 inches high.

70783. ARTOCARPUS GOMEZIANA Wall. Moraceae.

No. 842. Singapore Botanic Gardens. May 31, 1926. A handsome shade tree with large glossy leaves and very sour fruits, about 2 inches in diameter, which are red inside.

70784. ZANONIA sp. Cucurbitaceae.

From Sumatra. Plant collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 20, 1926. Numbered December, 1926.

No. 714. Sibolangit Botanic Gardens. March 26, 1926. A large ornamental tropical vine with large fleshy leaves, white flowers, and gourdlike fruits. Native to Sumatra.

70785. EUGENIA GRANDIS Wight. Myrtaceae.

From Straits Settlements. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 29, 1926. Numbered December, 1926.

No. 837. Singapore Botanic Gardens. May 31, 1926. A very handsome street tree with grassy green foliage, straight stems, and a dense crown.

70786. EREMOCHLOA OPHIUROIDES (Munro) Hack. Poaceae.

Centipede grass.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received October 29, 1926.

No. 621. Collected on the island of Honam, near the Canton Christian College, Canton, during July and August, 1926. This variety was growing on rolling land not under cultivation, but constantly pastured and cut over by hunters of fuel. The

grass has never been grown artificially here by means of seed, but it can doubtless be grown by following the usual practices observed in sowing lawn grasses.

For previous introduction see No. 65839.

70787. PRUNUS SUBHIRELLA PENDULA
(Sieb.) Tanaka. Amygdalaceae.

Rosebud cherry.

From California. Seedling trees, originally from the residence of David Fairchild, North Chevy Chase, Md., now growing at the Plant Introduction Garden, Chico, Calif. Numbered December, 1926.

A hardy ornamental Japanese tree, usually not more than 9 meters high, with slender pendulous branches, narrowly oval leaves up to 7 centimeters long, and single flowers up to 2.5 centimeters across, and varying in color from deep pink to almost white. The black fruits are about 7 millimeters in diameter. There are two trees at Chico, one north of cottage No. 1 and one in row 20, tree 21, new test orchard.

70788 to 70867.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November and December, 1926.

70788. QUERCUS MONGOLICA Fisch. Fagaceae.
Oak.

No. 6756. Originally from the vicinity of Ertseandiantzy. September 28, 1926. A hardy Manchurian oak, up to 100 feet in height, with dark-green coarsely toothed leaves. Obtained through the Manchurian Research Society.

For previous introduction see No. 65676.

70789 to 70867. HORDEUM VULGARE PALIDUM Seringe. Poaceae.

Six-rowed barley.

Numbers 70789 to 70855 were received through the cooperation of D. McLorn, Postal Commissioner, Harbin.

70789. No. 7288. From Anda, Heilungkiang Province.

70790. No. 7292. From Chalukoupei.

70791. No. 7296. From Hsiachintai.

70792. No. 7300. From Shihtouchengtzu.

70793. No. 7304. From Lalincheng, Kirin Province.

70794. No. 7308. From Chilingtzu, Kirin Province.

70795. No. 7312. From Mientuho.

70796. No. 7316. From Huanghuatientszu, Kirin Province.

70797. No. 7327. From Changchun, Heilungkiang Province.

70798. No. 7335. From Pataokou, Kirin Province.

70799. No. 7347. From Santaokang, Kirin Province.

70800. No. 7351. From Wulachieh.

70801. No. 7363. From Chinghochon, Kirin Province.

70802. No. 7366. From Hsichichang.

70803. No. 7370. From Tientsaokang.

70788 to 70867—Continued.

70804. No. 7374. From Ertatotzu.

70805. No. 7378. From Shenchiaowopu.

70806. No. 7382. From Mishatzu, Kirin Province.

70807. No. 7393. From Suileng.

70808. No. 7397. From Yingchengtzu, Kirin Province.

70809. No. 8143. From Chiuchienwu, Kirin Province.

70810. No. 8144. From Lungmenchen, Heilungkiang Province.

70811. No. 8149. From Mulantaho, Heilungkiang Province.

70812. No. 8152. From Nungnungho.

70813. No. 8156. From Liangchuchen, Kirin Province.

70814. No. 8161. From Hsiao Chengtzu.

70815. No. 8166. From Keshan.

70816. No. 8168. From Lintien.

70817. No. 8175. From Kouchientun, Kirin Province.

70818. No. 8176. From Hala, Heilungkiang Province.

70819. No. 8183. From Omru, Kirin Province.

70820. No. 8188. From Motzusan-ching, Heilungkiang Province.

70821. No. 8193. From Chulien, Heilungkiang Province.

70822. No. 8195. From Paiyangmu, Heilungkiang Province.

70823. No. 8199. From Kemiha.

70824. No. 8207. From Tetuchen, Heilungkiang Province.

70825. No. 8212. From Kayaho, Kirin Province.

70826. No. 8215. From Feikotu, Kirin Province.

70827. No. 8222. From Huashuliutzu, Kirin Province.

70828. No. 8227. From Changling, Kirin Province.

70829. No. 8230. From Mulingchan, Kirin Province.

70830. No. 8243. From Haifengchen, Heilungkiang Province.

70831. No. 8246. From Peichengchen, Kirin Province.

70832. No. 8252. From Talai, Heilungkiang Province.

70833. No. 8256. From Tuipochan, Kirin Province.

70834. No. 8264. From Mulan, Heilungkiang Province.

70835. No. 8271. From Chinyinpiehkuotzu, Kirin Province.

70836. No. 8273. From Hsiao chingtzu, Kirin Province.

70837. No. 8276. From Huma, Heilungkiang Province.

70838. No. 8280. From Chialuho, Kirin Province.

70788 to 70867—Continued.

70839. No. 8286. From Changchunling, Kirin Province.
70840. No. 8289. From Tasanchiatzu.
70841. No. 8291. From Piahokoutzu, Kirin Province.
70842. No. 8295. From Ertaihan, Heilungkiang Province.
70843. No. 8301. From Lafachen, Kirin Province.
70844. No. 8308. From Liaotientzu, Kirin Province.
70845. No. 8334. From Changchiati-yingtzu, Heilungkiang Province.
70846. No. 8344. From Sanlingtun, Kirin Province.
70847. No. 8345. From Maoershan.
70848. No. 8364. From Chiuchan, Kirin Province.
70849. No. 8369. From Hoyen, Kirin Province.
70850. No. 8372. From Kuanyinshan, Heilungkiang Province.
70851. No. 8376. From Chaoyangchen, Heilungkiang Province.
70852. No. 8383. From Lopei, Heilungkiang Province.
70853. No. 8389. From Kaoshantung, Kirin Province.

70788 to 70867—Continued.

70854. No. 8393. From Mingshiuhsien.
70855. No. 8395. From Tungkuanchen, Heilungkiang Province.
- Nos. 70856 to 70859 were obtained from the experimental field of the Chinese Eastern Railway through F. F. Terentieff, director of the land department.
70856. No. 8460. *Gonashichiha* No. 9.
70857. No. 8461. *Gonashichi* No. 8.
70858. No. 8462. *Malaweiha*.
70859. No. 8467. *Shiwalitsenpolako* No. 20.
- Nos. 70860 to 70867 were obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.
70860. No. 8564. From Waupaochan, Kirin Province.
70861. No. 8567. From Wauchinta.
70862. No. 8576. From Lohushan.
70863. No. 8598. From Hsiaoyushu, Heilungkiang Province.
70864. No. 8602. From Shihermachiatze, Kirin Province.
70865. No. 8604. From Chihsingho.
70866. No. 8608. From Tachiakou, Kirin Province.
70867. No. 8618. From Sautaokang, Kirin Province.

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UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 90



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Issued September, 1929

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, JANUARY 1 TO MARCH 31, 1927 (NOS. 70868 TO 73049)

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INTRODUCTORY STATEMENT ¹

Two agricultural explorers were in the foreign field during the period covered by this inventory, David Fairchild and F. A. McClure. Doctor Fairchild visited a number of places in northern Africa, the Canary Islands, and West Africa, while Mr. McClure continued his explorations in southeastern China. General collections were made by both in the areas visited.

As a result of the contacts established by P. H. Dorsett in Manchuria during his travels there in 1926, plant material continued to be sent in by correspondents in that Province.

W. T. Swingle, of this bureau, returned from an extensive collecting trip in China and Japan, bringing with him a large lot of living material, chiefly of citrus plants.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

KNOWLES A. RYERSON,
Principal Horticulturist, in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., July 30, 1928.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

INVENTORY

70868 to 70876.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received February, 1927.

70868 to 70870. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

Obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.

70868. No. 8988. From Neugtshotzu.

70869. No. 8994. From Yunglochen.

70870. No. 8995. From Tuichingshan.

Numbers 70871 to 70873 were obtained through I. V. Kosloff, Manchurian Research Society, Harbin.

70871. *PINUS SINENSIS* Lambert. Pinaceae. Chinese pine.

No. 9045. From the station at Irecte.

For previous introduction see No. 62472.

70872. *PRUNUS JAPONICA* Thunb. Amygdalaceae.

No. 9046.

For previous introduction see No. 65078.

70873. *PRUNUS* sp. Amygdalaceae. Plum.

No. 9044. From the station at Siaoling.

70874 to 70876. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.) Fabaceae. Soy bean.

Numbers 70874 and 70875 were obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.

70874. No. 8990. From Neugtshotzu.

70875. No. 8997. From Tuichingshan.

70876. No. 9015. Obtained at Foudiadiang through the Chinese Eastern Railway.

70877 and 70878. *PHYLLOSTACHYS* spp. Poaceae. Bamboo.

From Avery Island, La. Plants presented by E. A. McIlhenny, jungle gardens, through R. A. Young, Bureau of Plant Industry. Numbered March, 1927.

70877. *PHYLLOSTACHYS* sp.

This bamboo grows from 20 to 25 feet high and spreads by means of creeping rootstocks similar to those of the giant timber bamboo. It is somewhat cold resistant and will probably be hardy throughout Florida, southern Mississippi, Alabama, and Louisiana. These plants are from stock introduced by the late Frank N. Meyer in 1908. They were collected by him near Tangsi, China, and sent to Chico, Calif. Some of the plants were sent to E. A. McIlhenny, Avery Island, La., who has grown the stock for nearly 20 years. All other plantings appear to have been lost. It is a useful species chiefly on account of its edible shoots, which Mr. McIlhenny considers superior to any other form grown by him.

70878. *PHYLLOSTACHYS EDULIS* (Carr.) H. de Lehaie.

70877 and 70878—Continued.

A strong-growing, beautiful bamboo with culms 60 to 70 feet in height. It does best in rich soil and will be hardy in most of the South Atlantic and Gulf Coast States. Groves are already established at several places in this country, notably Anderson, S. C., and Avery Island, La. It is more difficult to propagate than the giant timber bamboo, but it is worthy of widespread use for its beauty, its fine poles, and its edible shoots.

70879 to 70883. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Ipswich, England. Seeds purchased from A. H. Sadd, Eastern Counties Farmers' Cooperative Association. Received March 3, 1927.

Locally grown seeds.

70879. No. 217. Special stock, broad-leaved red clover.

70880. No. 218. "Clover-sick" resisting red clover.

70881. No. 675. Finest perennial red clover.

70882. No. 677. Fine, late-flowering red clover.

70883. No. 684. Genuine single cut cowgrass.

70884 to 70890. *CAJANUS INDICUS* Spreng. Fabaceae. Pigeon pea.

From San Juan, Porto Rico. Seeds presented by O. W. Barrett, agricultural director, Department of Agriculture and Labor. Received March 2, 1927.

Locally grown varieties.

70884. No. 107. India.

70885. No. 278. Blanco Pequeno.

70886. No. 280. Colmeno.

70887. No. 282. Blanco grande.

70888. No. 285. Chagaro.

70889. No. 813. Dominica.

70890. No. 4258. Salvador.

70891. *PYRUS* sp. Malaceae. Pear.

From Manchuria. Scions collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 2, 1926. Numbered March, 1927.

No. 4718. Ta Lu Hua Temple, Kuangning. November 7, 1925. *Pa li hsiang li* (8 miles fragrant pear). Scions of one of the four pears which are said to be the best and most blight resistant of the Chinese pears. The fruits, 1½ to 2 inches in diameter, are half red and half yellow and ripen in September.

70892. *CAJANUS INDICUS* Spreng. Fabaceae. Pigeon pea.

From Lyallpur, India. Seeds presented by R. S. L. Jai Chan Luthra, associate professor of botany, Punjab Agricultural College. Received March 4, 1927.

Locally grown seeds.

70893. SYRINGA VELUTINA Komarov.
Oleaceae. Lilac.

From Dropmore, Manitoba, Canada. Seeds presented by F. L. Skinner. Received January 23, 1927.

A charming shrub with pale-pink, deliciously fragrant flowers. In height it ranges from 4 to 8 feet. It is native to Chosen and is very hardy.

For previous introduction see No. 63385.

70894. ERICA MULTIFLORA L. Erica-
ceae. Heath.

From Brignoles, France. Seeds presented by R. Salgues, director, botanic station. Received February 28, 1927.

An ornamental European shrub which probably requires an acid soil.

70895 to 70927.

From Africa and the Canary Islands. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February, 1927.

70895. ADANSONIA DIGITATA L. Bombacaceae.
Baobab.

No. 960. Georgetown, McCarthy Island, Gambia. January 6, 1927. The famous baobab tree of West Africa which at one time held the record for being the largest in diameter, 30 feet or so, and which grows to a very old age. The bark is used in making fiber for ropes, and the white arillus around the seeds has a cream-of-tartar taste.

For previous introduction see No. 59673.

70896. ALBIZZIA CHEVALIERI Harms. Mimosaceae.

No. 989. Near Kudang, Gambia River. January 7, 1927. A small but handsome tree with attractive feathery foliage. It endures very dry weather.

70897. AMARALIA BIGNONIAEFLOA Welw.
Rubiaceae.

No. 1129. Jala, Sierra Leone. January 20, 1927. A rather rare scandent shrub or tree with white and purple flowers or orange variegated with purple. The stems are used for tying material; the edible fruits are called gumatetei.

70898. CASSIA LAEVIGATA Willd. Caesalpiniaceae.
Smooth senna.

No. 1127. Jala, Sierra Leone. January 21, 1927. A smooth senna used at the Jala Experiment Station as a cover crop.

For previous introduction see No. 67681.

70899. CASSIA SIEBERIANA DC. Caesalpiniaceae.

No. 998. En route from Konakry to Fore Carial, French Guinea, January 16, 1927. A drought-resistant tree about 25 feet high, with attractive foliage and long slender black pods.

70900. CISTUS SYMPHYTIFOLIUS Lam. Cistaceae.
Rockrose.

No. 929. December 24, 1926. Orotava, Teneriffe, Canary Islands. A handsome native shrub. The abundance of rich rose-red flowers makes this a very striking ornamental. It can be propagated by cuttings.

70901. CONVULVULUS FLORIDUS L. f. Convolvulaceae.

No. 928. Orotava, Teneriffe, Canary Islands. December 24, 1926. A very attractive bushy shrub which produces large clusters of small white flowers. It probably requires an acid soil, but grows in fairly dry situations.

70895 to 70927—Continued.

70902. CROTALARIA RETUSA L. Fabaceae.

No. 987. Bathurst, Gambia. January 10, 1927. A plant which grows wild in this section.

For previous introduction see No. 64061.

70903. CROTALARIA sp. Fabaceae.

No. 1120. Jala, Sierra Leone. A large-podded species.

70904. DETARIUM SENEGALENSE Gmel. Caesalpiniaceae.

No. 1107. Near Abuko, Gambia. January 10, 1927. A leguminous fruit tree with green-fleshed fibrous fruits about 1½ inches in diameter.

70905. ERAGROSTIS sp. Poaceae. Grass.

No. 984. A grass growing in a dried rice field in Georgetown, Gambia, which appeared promising as a hay crop for similar clay soils in the South.

70906. GOSSYPIUM sp. Malvaceae. Cotton.

No. 974. En route from Georgetown to Kuntaur. January 10, 1927. A cultivated cotton of the Gambia region.

70907. GOSSYPIUM sp. Malvaceae. Cotton.

No. 1103. Obtained at the market at Bathurst, Gambia. January 10, 1927. This cotton may be a native species.

70908. HAKEA LAURINA R. Br. Proteaceae.
Sea-urchin hakea.

No. 927. A handsome Australian species with brilliant wine-red flower heads; found growing on dry volcanic soil near the sea.

For previous introduction see No. 63719.

70909. INDIGOFERA sp. Fabaceae. Indigo.

No. 1114. Taimai, near Jala, Sierra Leone. January 20, 1927. A tall-growing, heavy-seeding species which may have been introduced here.

70910. LAGENARIA LEUCANTHA (Duchesne) Rusby (L. vulgaris Seringe). Cucurbitaceae.
Gourd.

No. 993. Near Cape St. May, Gambia. January 10, 1927. An enormous calabash gourd used extensively in Gambia as a household utensil. The fruits must be mature before they are picked, and the half gourds must be dried out slowly or they will crack.

70911. LANDOLPHIA sp. Apocynaceae.

No. 1113. Near Jala, Sierra Leone. January 21, 1927. A species found in lateritic sand, which may be of value for its rubber. The yellow fruits, 1½ inches in diameter, have white flesh with a rather refreshing flavor.

70912. MIMOSA DINKLAGEI Harms. Mimosaceae.

No. 1123. Jala, Sierra Leone. January 20, 1927. A forest tree, 60 feet in height, with a spreading habit and typical mimosalike leaves. It should make a splendid shade tree, but probably requires a good deal of moisture.

70913. OLYRA LATIFOLIA L. Poaceae. Grass.

No. 1119. Jala, Sierra Leone. January 21, 1927. A handsome broad-leaved bamboolike perennial grass, sometimes 15 feet high, with panicles 4 to 6 inches long.

For previous introduction see No. 47028.

70914 to 70917. PANICUM spp. Poaceae. Grass.

70914. PANICUM APHANONEURUM Stapf.

No. 982. En route from Cape St. May to Abuko, Gambia. January 11, 1927. A perennial grass, 6 feet high, which is extremely beautiful when in flower. It is a little coarse

70895 to 70927—Continued.

for hay, but of some value as green forage. This grass makes a pure stand in fields which are flooded in the rainy season.

70915. *PANICUM* sp.

No. 983. Georgetown, McCarthy Island, Gambia.

70916. *PANICUM* sp.

No. 1104. Konakry, French Guinea. January 15, 1927. A grass, probably an annual, which is handsome when in bloom. It seems very promising for hay and is used in this region for cattle.

70917. *PANICUM* sp.

No. 1125. En route from Cape St. May to Abuko, Gambia. January 10, 1927. A grass from cultivated fields, abandoned for a season, which may make a good hay crop because of its stooing habit, soft foliage, and tender stems.

70918 and 70919. *PENNISETUM SETOSUM* (Swartz) L. Rich. Poaceae. Grass.

A stout perennial grass, 2 to 4 feet high, distributed throughout the Tropics and often used as forage.

For previous introduction see No. 58037.

70918. No. 999. Konakry, French Guinea. January 15, 1927.

70919. No. 999a. Konakry, French Guinea. January 15, 1927.

70920. *PROSOPIS OBLONGA* Benth. Mimosaceae.

No. 988. From dry land opposite Georgetown, on the Gambia River. January 9, 1927. A hard-wooded leguminous tree, 70 feet high, which appears of promise as an avenue tree because of its attractive habit.

70921. *RHYNCHOSIA CALYCINA* Guill. and Perr. (*Dolicholus calycinus* Hiern). Fabaceae.

No. 1124. Jala, Sierra Leone. January 21, 1927. An attractive climbing shrub with masses of bright-red flowers in dense racemes 3 to 4 inches long.

70922. *STERCULIA TRAGACANTHA* Lindl. Sterculiaceae.

No. 992. Between Fore Carial and Konakry, French Guinea. January 16, 1927. A tree 40 to 50 feet high with attractive leathery leaves and clusters of brilliant scarlet fruits containing smooth black seeds.

70923. *STIZOLOBIUM CINEREUM* Piper and Tracy. Fabaceae.

No. 1115. Jala, Sierra Leone. January 21, 1927. The "stringless" velvet bean of South Africa.

70924. *STRYCHNOS* sp. Loganiaceae.

No. 964. Between Georgetown and Kuntaur, Gambia. January 10, 1927. "Kafir orange." An erect and nearly spineless tree 10 feet high, growing on dry clay soil.

70925. *TERMINALIA MACROPTERA* Guill. and Perr. Combretaceae.

No. 991. Sankuli Kunda, near Georgetown, Gambia. January 9, 1927. A spreading tree, 60 feet high, which withstands long periods of drought and hot weather.

70926. *PHYSEDRA EGLANDULOSA* Hutchins. and Dalziel. Curcubitaceae.

No. 1118. Near the Taia River, Jala. January 21, 1927. A vine producing attractive red gourdlike fruits which are said to be eaten only by cattle.

70895 to 70927—Continued.

70927. *PENTACLETHRA MACROPHYLLA* Benth. Mimosaceae.

No. 994. En route from Konakry to Fore Carial, French Guinea. January 16, 1927. A handsome tropical tree which is promising as a shade and avenue tree for the warmer parts of the United States. The seeds are used to make a green dye. This tree is said to grow in large numbers on the plateau of Futa Jalon, at an altitude of 4,000 feet.

For previous introduction see No. 62916.

70928. *ULMUS PARVIFOLIA* Jacq. Ulmaceae.

From Woodward, Okla. Plants presented by E. F. Chilcott, Bureau of Plant Industry. Received March 4, 1927.

A small handsome semievergreen tree, 15 meters or less high, with small glossy green leaves. Native to northern China, Chosen, and Japan. These plants are from seeds of trees that have been growing for 12 years under adverse conditions at Tucumcari, N. Mex., and have proved entirely hardy.

70929. *GOSSYPIUM* sp. Malvaceae. Cotton.

From Raiatea, Society Islands. Seeds presented by Dr. J. Arthur Harris, department of botany, University of Minnesota, University Farm, St. Paul, Minn., through T. H. Kearney, Bureau of Plant Industry. Received March 2, 1927.

A variety cultivated by the Chinese inhabitants of Utoroa, Raiatea. Collected October 11, 1926.

70930 to 70932.

From Luchowfu, Anhwei, China. Scions obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received March 10, 1927.

70930 and 70931. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

70930. No. 769. Tree No. 2. A tree about 5 or 6 years old, which is probably grafted, though the union of the scion and stock is not visible above the ground. It is a superior variety and should receive unusual attention. The sweet-fleshed fruits are large, somewhat cylindrical though sometimes slightly squarish, with a flat calyx and rounded apex and seedless or few seeded. The core is somewhat pithy, not large, and separates from the surrounding flesh. The fruits ripen at midseason, the skin becoming red-orange, and they are good keepers. The astringency disappears when the fruits are allowed to ripen by themselves. Artificial methods are necessary only when it is desired to ripen the fruit early.

70931. No. 771. Tree No. 3. A tree about 5 or 6 years old, probably grafted, though the union of the scion and stock is not visible above the ground. The fruits are large, flattened, sometimes very slightly squarish in section, and sometimes with more or less distinct grooves running from the tips of the calyx lobes. They are seedless or few seeded, with soft flesh when ripe, and keep well. In most points they are very similar to those of the variety commonly cultivated around Luchowfu, but superior in quality and sweetness. If allowed to ripen naturally they are without astringency.

70932. *MALUS* sp. Malaceae. Apple.

Hwa hong (red flower). An exceptionally hardy small species of special value because it stands the hot humid climate of this part of China. The tree, which is drought and cold resistant, produces rather small, hard, sour fruits of little value.

70933 to 70954.

From Africa. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 11, 1927.

70933. *ACACIA SCORPIOIDES* (L.) W. F. Wight (*A. arabica* Willd.). Mimosaceae.

No. 943. Bathurst, Gambia. January 6, 1927. A rapid-growing variety used as a hedge at the Bathurst Experiment Station and which should be tried as a drought-resistant hedge plant in the Southwest. The pods are said to furnish a very superior tannin.

70934. *AEOLANTHUS BUETTNERI* Guérke. Menthaceae.

No. 952. Georgetown, McCarthy Island, Gambia. January 8, 1927. An aromatic erect-growing perennial which seeds very freely. It may prove of use as a new fragrant herb in the gardens of the South.

70935. *BAUHINIA RETICULATA* DC. Caesalpiniaceae.

No. 963. En route from Georgetown to Kuntaur, Gambia. January 10, 1927. A small tree found in very dry lateritic soil and which is subjected to extremely long periods of drought. The rather small flowers are in compound racemes not much longer than the leaves and are not very showy.

For previous introduction see No. 50126.

70936. *CASSIA* sp. Caesalpiniaceae.

No. 956. En route from Georgetown to Kuntaur, Gambia. January 10, 1927. The pods of this species are slightly gummy, but not at all sweet as those of some other cassias.

70937. *COMBRETUM* sp. Combretaceae.

No. 978. En route from Georgetown to Kuntaur, Gambia. January 10, 1927. A climbing shrubby vine.

70938 to 70940. *CROTALARIA* spp. Fabaceae.

70938. *CROTALARIA* sp.

No. 949. Kudang, Gambia. January 7, 1927. A tall-growing vigorous species which should make a good cover crop.

70939. *CROTALARIA* sp.

No. 955. McCarthy Island, Gambia. January 9, 1927. A medium-sized wild species found in lateritic soil. It should stand long droughts.

70940. *CROTALARIA* sp.

No. 975. Georgetown, McCarthy Island, Gambia. January 10, 1927. A plant not over 18 inches high, which may prove useful as a cover crop.

70941. *DIOSPYROS SENEGALENSIS* Perr. Diospyraceae.

No. 961. Georgetown, McCarthy Island, Gambia. January 8, 1927. A small-fruited variety which is said to have a good flavor.

For previous introduction see No. 49587.

70942. *ENTADA SUDANICA* Schweinf. Mimosaceae.

No. 962. Found in lateritic soil between Georgetown and Kuntaur, Gambia. January 10, 1927. A small tree with curiously shaped brown pods, a foot or more long and 3 inches across, which split up and leave the edges of the pods intact.

70943. *ERAGROSTIS* sp. Poaceae. Grass.

No. 944. January 6, 1927. An ornamental grass, growing in sandy soil along the Gambia

70933 to 70954—Continued.

River at Kerewan, near Bathurst, where the rainfall is about 40 inches. It covers low land which is extremely dry during the dry season, December to April, and flooded during the wet season. This may prove valuable as a hay grass of rapid growth for the Southwest.

70944. *ERYTHROPHLOEUM GUINEENSE* Don. Caesalpiniaceae.

No. 971. Georgetown, McCarthy Island, Gambia. "Ordeal" tree of Africa. January 10, 1927. A very handsome stately tree with poisonous bark, which is found on banks of streams and in dry regions. This tree may contain a valuable alkaloid.

For previous introduction see No. 48457.

70945 to 70947. *FICUS* spp. Moraceae.

70945. *FICUS CAPENSIS* Thunb.

No. 953. Near Georgetown, McCarthy Island, Gambia. January 8, 1927. A tree with very large attractive leaves and immense clusters of edible fruits, 1½ inches in diameter, which are borne on the trunk and the large branches. It may be immune from nematode infestation.

For previous introduction see No. 56533.

70946. *FICUS VOGELII* Miquel.

No. 959. Bathurst, Gambia. January 4, 1927. A beautiful shade tree with large oblong elliptic leaves which are mostly gathered at the ends of the twigs. The small fruits are attractively grouped on the branches and produce many viable seeds.

70947. *FICUS SPRAGUEANA* Mildbr. and Burret.

No. 951. Georgetown, McCarthy Island, Gambia. January 8, 1927. A handsome shade tree with edible fruits.

70948. *MEIBOMIA* sp. (*Desmodium* sp.). Fabaceae.

No. 946. Kudang, Gambia. January 7, 1927. A heavy seeding species found in moist sandy soil. It may prove valuable as a cover crop.

70949. *PARINARI MACROPHYLLUM* Sabine. Rosaceae.

No. 945. From Kerewan, Gambia River, near Bathurst, where the fruits of this tree are called komba. A small or medium-size tree of picturesque habit with attractive large leaves, 8 inches long, and velvety brown young shoots. The rather dry fruit, the size of a goose egg and containing a large rough seed, is brown with many rough lenticels. This is eaten when ripe and has a distinctive flavor hard to describe.

70950. *Pennisetum glaucum* (L.) R. Br. (*P. typhoidum* Rich.). Poaceae. Pearl millet.

No. 973. Gambia. January 10, 1927. The Mandingo name is *sanyour* or *sannio*. A millet grown on dry land in this region.

70951. *Sterculia tomentosa* Guill. and Perr. Sterculiaceae.

No. 976. En route from Georgetown to Kuntaur, Gambia. January 10, 1927. A handsome light-barked tree, 35 feet high, of spreading habit, which produces an abundance of faintly odoriferous greenish pink flowers. The pods are covered with brittle hairs which irritate the skin, but are not poisonous.

70952. *VIGNA* sp. Fabaceae.

No. 950. Kudang, Gambia. January 7, 1927. A legume growing in moist soil near small watercourses.

70933 to 70954—Continued.

70953. *ZEA MAYS* L. Poaceae. Corn.

No. 965. Georgetown, McCarthy Island, Gambia. January 9, 1927. A corn found on McCarthy Island and lands bordering the Gambia River where there is a 40-inch rainfall and a drought lasting from October to June with high temperatures from April to June. The seeds are planted at the beginning of the rainy season.

70954. *ZIZIPHUS SPINA-CHRISTI* (L.) Willd. Rhamnaceae.

No. 979. Near Kudang, Gambia. January 7, 1927. A bush or small tree with round fruits which when ripe are sweetish and remind one of the true Chinese jujube. It should be grown for stock and comparison purposes.

For previous introduction see No. 51741.

70955 and 70956. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Ryam, Darbhanga, Bihar and Orissa, India. Cuttings obtained from Noel Deerr, Superintendent of Factories, Muzaffarpur, Bengal, through E. W. Brandes, Bureau of Plant Industry. Received March 14, 1927.

It is reported that these varieties grow in swampy land or land that has been flooded.

70955. *Kewali*.70956. *Semari*.70957. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Freetown, Sierra Leone, West Africa. Cuttings obtained by H. H. McKinney, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 12, 1927.

No. 1132. January 25, 1927. A Liberian strain.

70958. *HYPHAENE THEBAICA* (L.) Mart. Phoenicaceae. Doum palm.

From Kerewan, Gambia, West Africa. Fruits collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 1, 1927.

No. 980. January 10, 1927. A palm about 30 feet high which is noted as the only branching palm. It grows in sandy and clay soils and is distributed from Upper Egypt to central Africa. The stems of old trees are sometimes forked three or four times. The beautiful yellowish brown fruits are borne in long clusters of one to two hundred. In Upper Egypt the poorer classes eat the fibrous fruit husk, which tastes much like gingerbread but is rather hard. The hard tough wood is used for domestic utensils. It is one of the most striking and picturesque of the palms and is capable of withstanding severe droughts.

For previous introduction see No. 66656.

70959 to 70965.

From China. Scions obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February 23, 1927.

70959 and 70960. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

70959. No. 962. Kanchow, Kiangsi. December 15, 1926. A variety producing medium large, somewhat flattened, squarish fruits with few seeds which are orange-red when ripe. They are usually ripened artificially to remove the astringency.

70960. No. 963. Kanchow, Kiangsi. December 15, 1926. The same as No. 962 [No. 70969], but from a different tree.

70959 to 70965—Continued.

70961 to 70964. *PRUNUS MUME* Sieb. and Zucc. Amygdalaceae. Japanese apricot.

Bud wood from trees growing in the orchards of Lingnan University, Canton. January, 1927.

70961. No. 982. *Hang mui*. A variety characterized by its distinctly upward-pointing branching habit and golden-yellow fruits.

For previous introduction see No. 62316.

70962. No. 983. *Wang wat mui*. A variety said to have especially large flowers.

For previous introduction see No. 62314.

70963. No. 986. *Hung mui*. A variety distinguished by reddish bark, rather slender branches, pink flowers, and red fruits.

For previous introduction see No. 62315.

70964. No. 990. *Tsai mui*. A variety said to have large fruits.

For previous introduction see No. 62312.

70965. *PYRUS* sp. Malaceae. Pear.

No. 965. Kanchow, Kiangsi. December 15, 1926. *Chan paak lei*. A variety widely cultivated in China, with medium-sized subglobular fruits of fair quality.

70966. *BERBERIS BERGMANNIAE* ACANTHOPHYLLA C. Schneid. Berberidaceae. Barberry.

From San Francisco, Calif. Seeds presented by Eric Walther, Golden Gate Park. Received March 4, 1927.

An evergreen bush, up to 6 feet high, with leathery spiny leaves 2 inches long and black berries. Native to western China.

For previous introduction see No. 34552.

70967 to 70993.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February 24, 1927.

70967. *ACACIA CONFUSA* Merr. Mimosaceae.

No. 992. Collected during the autumn of 1926 from trees growing on the Lingnan University Campus, Canton. *Toi waan seung sz*. A very rapid-growing, ornamental tree with ball-like clusters of fragrant yellow flowers which appear twice a year.

70968. *ACTINIDIA* sp. Dilleniaceae.

No. 979. *Yeung to*. From a plant apparently half under cultivation, north of Kanchow, Kiangsi Province. December 14, 1926. A scandent shrub, 3 to 4 meters high, bearing large dense clusters of brownish oblong fruits, the size of guinea eggs, which have green flesh of a pleasant subacid flavor.

70969. *ASTRAGALUS SINICUS* L. Fabaceae.

No. 533. *Hung fa tsz tsoi*, *Chong uen fa*. A low-growing legume native to Kwanton Province and cultivated as a green-manure crop in the Linchow district. It is also eaten as a green vegetable by the natives, though in small quantities. Livestock, particularly cows and horses, are not allowed to graze in it, because it is said to be fatal to them if large quantities are eaten.

70970. *BAUHINIA* sp. Caesalpiniaceae.

No. 975. Obtained near Wanan, Kiangsi Province. December 12, 1926. A climber, 3 to 4 meters in length, with tough hooks which are its means of clinging to support.

70967 to 70993—Continued.

70971. *BOEHMERIA NIVEA* (L.) Gaud. Urticaceae. Ramie.

No. 967. Piushan, Kiangsi Province. December 12, 1926. *Chue ma*. A variety cultivated on a small scale throughout this part of China. It is sometimes propagated by seeds, but usually by dividing the old plants.

For previous introduction see No. 65825.

70972. *BRASSICA* sp. Brassicaceae.

No. 981. Linchow, Kwantung Province. *Yautsoi*. A plant grown extensively in northern Kwantung and as far north as central China as a winter crop for the oil contained in the seeds.

70973. *CORNUS* sp. Cornaceae.

No. 954. En route from Kian to Wanan, Kiangsi Province. A shrub 2 meters high, the leaves of which change to brilliant colors in the fall. It produces an abundance of bright-red berries in dense clusters, and is a fine winter ornamental for this latitude.

70974. *CUPRESSUS FUNEBRIS* Endl. Pinaceae. Mourning cypress.

No. 956. En route from Kian to Wanan, Kiangsi Province. December, 1926. *Tiu paak*. An ornamental evergreen tree up to 10 meters high, with drooping branches and flat seeds. When young the tree is cone-shaped, becoming scraggly as it grows older.

For previous introduction see No. 61489.

70975. *EUGENIA* sp. Myrtaceae.

No. 949. En route from Kian to Wanan, Kiangsi Province. December, 1926. *Kwa tsz cha*. A low boxlike evergreen plant which has possibilities as an ornamental. During the winter it produces large purple-black berries.

70976. *FICUS REPENS* Rottl. Moraceae.

No. 959. En route from Kian to Taihop, Kiangsi Province. December 10, 1926. An ornamental creeper the leaves of which are small when young, but increase in size as the plant becomes older. In the vicinity of Kwangtung it is not known to produce seeds, though the fruits are common.

70977. *HOLBOELLIA* sp. Lardizabaleaceae.

No. 969. En route from Sunfung to Lungnan, Kiangsi Province. December 18, 1926. *Na*. A plant with fruits resembling the papaw in size, shape, and color. This plant is said to be a vine, and may be interesting botanically.

70978. *SORGHUM VULGARE* Pers. Poaceae. Sorghum.

No. 993. December 14, 1926. *Suk tsz*. A red variety of nonsaccharine sorghum obtained near Kanchow, Kiangsi Province.

70979 to 70983. *ILEX* spp. Aquifoliaceae. Holly.

70979. *ILEX CORNUTA* Lindl. and Paxt. Chinese holly.

No. 948. Near Kian, Kiangsi Province. December 8, 1926. *Lak kok*. A splendid evergreen with dark-green shiny leathery leaves which are thorny and crinkled. It produces an abundance of bright-red berries during the winter.

For previous introduction see No. 65860.

70980. *ILEX* sp.

No. 953. En route from Kian to Taihop, Kiangsi Province. December, 1926. *Hung tung tsing*. An ornamental 5 to 6 meters high, with fine dark-green foliage and bright-red berries.

70967 to 70993—Continued.

70981. *ILEX* sp.

No. 955. En route from Kian to Wanan, Kiangsi Province. December, 1926. *Lak kok*. A yellow-fruited shrub about 2 meters high, which is very attractive.

70982. *ILEX* sp.

No. 961. En route from Kian to Wanan, Kiangsi Province. December, 1926. *Hung tung tsing*. A shrub or small tree with splendid evergreen foliage, entire lanceolate leaves 8 centimeters long, and abundant clusters of bright-red berries which are produced during the winter. It is a splendid ornamental for this latitude, and grows wild here.

70983. *ILEX* sp.

No. 994. Near Kanchow, Kiangsi Province. December 16, 1926. *Laap shue*. A large tree, apparently wild, with fine evergreen foliage, which is very attractive in winter when the abundant crop of red berries is produced. These berries are said to yield a sort of wax, sometimes used in making candles.

70984. *JUNIPERUS* sp. Pinaceae. Juniper.

No. 952. En route from Kian to Taihop, Kiangsi Province. December, 1926. *Loh hon paak*. A weeping evergreen 2 to 3 meters high, with small, lanceolate leaves which have white stripes beneath.

70985. *KRAUNHIA* sp. (*Wisteria* sp.). Fabaceae.

No. 970. En route from Sunfung to Lungnan, Kiangsi Province. December 18, 1926. A wild vine with smooth pods in clusters of three to six.

70986. *LITSEA* sp. Lauraceae.

No. 958. En route from Kian to Taihop, Kiangsi Province. December 10, 1926. *Laap heung*. An ornamental tree, about 10 meters high, with shiny evergreen leaves and a sprinkling of red berries produced in the winter.

70987. *NICOTIANA* sp. Solanaceae. Tobacco.

No. 950. En route from Kian to Taihop, Kiangsi Province. December 10, 1926. A variety of tobacco which is grown to a limited extent in this region.

70988 to 70990. *PHOTINIA* spp. Malaceae.

70988. *PHOTINIA* sp.

No. 957. Near Kian, Kiangsi Province. December 9, 1926. *To tsz*. A small evergreen tree bearing large clusters of purple, edible fruits. It is a fine ornamental tree for this latitude.

70989. *PHOTINIA* sp.

No. 976. Near Tungechow, Kiangsi Province. December 13, 1926. An ornamental shrub or small tree found in fertile clay loam, with ovate-lanceolate serrulate foliage and red fruits, produced in large terminal panicles.

70990. *PHOTINIA* sp.

No. 978. December, 1926. The same as No. 976 [No. 70989], but from Kanchow Kiangsi Province.

70991. *SCHIMA* sp. Theaceae.

No. 951. En route from Kian to Taihop, Kiangsi Province. December 9, 1926. *Hoh wak*. An evergreen, 8 to 10 meters high and 15 to 20 centimeters in diameter, which is highly valued as a timber tree.

70967 to 70993—Continued.

70992. *EURYA CHINENSIS* R. Br. Theaceae.

No. 971. En route from Sunfung to Lungnan, Kiangsi Province. December 18, 1926. *Inkberry*. A very ornamental evergreen shrub with small, dentate leaves of tough texture and small white, drooping fragrant flowers which are borne along the whole length of the branches. Although not striking, this shrub should make a pleasing ornament. It grows well on poor dry soil.

70993. (Undetermined.)

No. 974. Near Shinkwaantung. December 23, 1926. A shrub 2 to 3 meters high, with fine foliage, which grows well on poor soil. It produces bright-red berries in terminal cymes.

70994. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae. Cushaw.

From San Remo, Italy. Seeds presented by Dr. Mario Calvino. Received March 9, 1927.

A locally developed variety.

70995 to 70997. *SOLANUM* spp. Solanaceae.

From Reading, England. Tubers obtained from Sutton & Sons, through William Stuart, Bureau of Plant Industry. Received March 15, 1927.

70995. *SOLANUM ETUBEROSUM* Lindl.

A wild Chilean potato, closely resembling the cultivated potato.

70996. *SOLANUM MAGLIA* Schlecht.

A wild potato, native to Chile, with oblong tubers about an inch and a half long.

For previous introduction see No. 57219.

70997. *SOLANUM TUBEROSUM* L.

English-grown tubers.

70998. (Undetermined.)

From Jala, Sierra Leone, West Africa. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 12, 1927.

No. 1122. January 21, 1927. An ornamental tropical tree with large dark-green leaves and bright-red velvety fruits, the size and shape of a horse-chestnut, which split open and reveal crimson seeds each with a golden-yellow aril.

70999. *HEDYSARUM SEMENOWII* Regel and Herd. Fabaceae.

From Ottawa, Canada. Seeds presented by J. Adams, botanist, Central Experimental Farm. Received March 10, 1927.

An erect hardy herbaceous perennial with purplish flowers. Native to Turkestan.

For previous introduction see No. 42193.

71000 to 71016. *FRAGARIA* spp. Rosaceae. Strawberry.

From Caen, Calvados, France. Plants presented by Roland Chapron. Received January 3, 1927.

French strawberry varieties.

71000. *FRAGARIA* sp.

Général de Castelnau.

71001. *FRAGARIA* sp.

Louis Gauthier.

71002. *FRAGARIA* sp.

Ministre Henry Cheron.

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71000 to 71016—Continued.

71003. *FRAGARIA* sp.

Pie X.

71004. *FRAGARIA* sp.

President Poincaré.

71005. *FRAGARIA* sp.

Princesse Marie Clotilde.

71006. *FRAGARIA* sp.

St. Fiacre.

71007. *FRAGARIA* sp.

Soleil d'Austerlitz.

71008. *FRAGARIA* sp.

Suavis.

71009. *FRAGARIA* sp.

Belle Alliance.

71010. *FRAGARIA* sp.

Tardive de Leopold.

71011. *FRAGARIA* sp.

Empereur du Maroc.

71012. *FRAGARIA* sp.

Emp. Nicolas.

71013. *FRAGARIA* sp.

Hatives de Caen.

71014. *FRAGARIA* sp.

Mme. Moutot.

71015. *FRAGARIA* sp.

Reine Louise.

71016. *FRAGARIA* sp.

Ville de Caen.

71017. *NYPA FRUTICANS* Wurmbr. Phoenicaceae. Nipa palm.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, Director of Agriculture. Received January 3, 1927.

From an economic standpoint, this palm is one of the most important in the Philippines. It occurs along tidal streams throughout the archipelago and thrives only in brackish swamps. The *nipa*, as it is called, has a stout creeping underground stem, and the pinnate leaves, which are in erect clusters, are 23 feet or more in length. The flat fruits, 5 inches long, 4 inches wide, and 2 inches thick, are crowded in a large round head which is borne on a special erect stalk. The juice obtained by cutting this stalk just below the fruiting head is a source of sugar and alcohol. Probably 85 per cent of the 3,000,000 gallons of proof alcohol produced annually in the Philippines comes from the *nipa* palm. The leaves are extensively used for thatching and for making baskets and mats, and the immature seeds are boiled in sugar to form a confection. In addition to the above the tree is also a pleasing ornamental.

For previous introduction see No. 57940.

71018. *CASTANOPSIS TRIBULOIDES* (J. E. Smith) A. DC. Fagaceae.

Evergreen chinquapin.

From Maymyo, Burma, India. Seeds presented by C. E. Parkinson, Forest Botanist. Received January 3, 1927.

An evergreen chinquapin from the subtropical Himalayas, with small narrow leaves and solitary nuts. The tree is usually 40 to 60 feet high. The bark is said to yield a relatively large amount of tannin.

71019 to 71026. PRUNUS AVIUM L.
Amygdalaceae. Sweet cherry.

From Saonara, Padova, Italy. Plants purchased from Fratelli Sgaravatti. Received January 4, 1927.

Italian sweet-cherry varieties, not in the trade in the United States.

71019. *Napoleone (Imbrian)*.

71020. *Del Nord*.

71021. *Imperiale*.

71022. *Lodgiana*.

71023. *Marasca di Ostheim*.

71024. *Marasca moscata*.

71025. *Marasca olandese*.

71026. *Ministro Podbielski*.

71027 to 71029. CASTANEA MOLLISSIMA
Blume. Fagaceae. Hairy chestnut.

From Chihli Province, China. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 5, 1927.

From the Fa Hua Ssu Temple, near Peking. November 20, 1926.

71027. No. 8868. *Han luli tze* (cold dew chestnut). This variety ripens between the first and the middle of October.

71028. No. 8869. *Erh luli tze* (second crop chestnut). This variety ripens about the last of September.

71029. No. 8870. *Hue hao li tze* (tiger paw chestnut). A large fine-looking chestnut.

71030. CASTANOPSIS TRIBULOIDES (J. E. Smith) A. DC. Fagaceae.

Evergreen chinquapin.

From Shillong, Assam, India. Seeds presented by the conservator of forests. Received January 3, 1927.

For previous introduction and description see No. 71018.

71031 to 71033. ALLIUM CEPA L.
Liliaceae. Onion.

From Santa Cruz, Teneriffe, Canary Islands. Seeds presented by C. Garcia Dorta. Received January 4, 1927.

Canary Island onion varieties.

71031. *Crystal wax* onion.

71032. *Red Bermuda* onion.

71033. *Yellow Bermuda* onion.

71034 to 71036. ALLIUM CEPA L.
Liliaceae. Onion.

From Santa Cruz, Teneriffe, Canary Islands. Seeds presented by Luis M. Díaz Sansón. Received January 4, 1927.

Canary Island onion varieties.

71034. *Crystal wax* onion.

71035. *Red Bermuda* onion.

71036. *Yellow Bermuda* onion.

71037. CASTANOPSIS SCLEROPHYLLA
(Lindl.) Schottky. Fagaceae.

Evergreen chinquapin.

From Nanking, China. Seeds purchased through Prof. J. H. Reinsner, College of Agriculture and Forestry, University of Nanking. Received January 4, 1927.

A hardy evergreen tree, up to 65 feet high, with edible nuts having a flavor like that of the chinquapin. Native of south-central China.

For previous introduction see No. 44663.

71038. QUERCUS sp. Fagaceae. Oak.

From Chihli Province, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 5, 1927.

No. 8773. Ming Tombs. November 18, 1926. One of the white oaks, 1½ to 2 feet in diameter and about 50 feet high.

71039. CRATAEGUS sp. Malaceae.

Hawthorn.

From China. Seeds collected by J. F. Rock, Arnold Arboretum, Jamaica Plain, Mass. Received January 5, 1927.

Pezhu, on the Chulungapu River, Kansu-Tibet border. September, 1926. A very handsome plant 15 to 18 feet in height with stiff rich-green leaves which are deeply and coarsely serrate and slightly three lobed. The brilliant red fruits, in drooping cymes, are smaller than a cherry. This tree is found in loess loamy soil usually near the banks of streams, at altitudes of 7,500 to 8,500 feet. (Rock.)

71040 to 71043.

From Winchester, England. Plants purchased from Hillier & Sons, West Hill Nurseries. Received January 10, 1927.

71040 to 71042. CRATAEGOMESFILUS spp. Malaceae.

Graft hybrids between Crataegus and Mespilus.

71040. CRATAEGOMESFILUS ASNIERESI C. Schneid.

The young branches and leaves of this plant are white with a woolly down, and the flowers and fruits are showy.

71041. CRATAEGOMESFILUS DARDARI Simon-Louis.

The leaves and fruits are similar to those of Mespilus, but the branches are spiny, and the flowers are 1.5 centimeters across and in corymbs. The fruit with persistent calyx lobes is 1.5 centimeters in diameter and contains one to three seeds.

71042. CRATAEGOMESFILUS GRANDIFLORA (J. E. Smith) Bean.

A distinctly vigorous tree with leaves, flowers, and fruit which resemble small medlars.

71043. DAVIDIA INVOLUCRATA Baill. Cornaceae. Dove-tree.

The Chinese dove-tree, as this is sometimes called, is a native of the mountain forests of central and western China. In its native home it becomes a large tree 75 feet tall, with a shapely pyramidal crown. When in bloom the tree is unusually striking because of the two or three large snow-white bracts which subtend each flower. These bracts are of unequal size, the largest being 4 to 8 inches long and 2 to 4 inches broad. The bright-green, oval, sharply toothed leaves are 3 to 6 inches long.

For previous introduction see No. 65439.

71044. CITRUS AURANTIFOLIA
(Christm.) Swingle. Rutaceae. Lime.

From Los Banos, Philippine Islands. Seeds presented by J. D. Bigarino, through Walter T. Swingle, Bureau of Plant Industry. Received January 12, 1927.

The native Philippine lime, known there as the "dayap." It is an arborescent, thorny shrub, 10 to 15 feet high, with greenish yellow, rounded fruits of pleasant acid flavor, excellent for making limeade. The wild Philippine lime is distributed generally throughout the archipelago, but the fruits are mostly of poor quality.

For previous introduction see No. 69022.

71045. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae.

Soy bean.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 12, 1927.

No. 8624. November 9, 1926. From the botanical garden in Harbin.

71046. PINUS KORAIENSIS Sieb. and Zucc. Pinaceae. **Korean pine.**

From Nanking, China. Seeds purchased through Prof. J. H. Reisner, College of Agriculture and Forestry, University of Nanking. Received January 4, 1927.

A hardy pyramidal tree up to 30 meters high, with gray-brown bark and straight, dark-green needles, 6 to 12 centimeters long. Native to Chosen. This pine grows slowly and is of dense habit.

For previous introduction see No. 65875.

71047 and 71048.

From China. Seeds and scions collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 14, 1927.

71047. CITRUS sp. Rutaceae.

No. 946. Near Soamoo, Kiangsi Province. December 5, 1926. *Fahung*. Seeds of a smooth-barked, thrifty tree, producing an abundance of ornamental fruits, which is widely grown in this region. It is propagated from seeds, and is said to be used as stock for other varieties of citrus. The seedy fruits are large, somewhat flattened, with the apex depressed; the red-orange skin is about a centimeter thick and rough; the acid flesh is high in juice, but low in rag. The fruits are used by the Chinese as table ornaments.

71048. DIOSPYROS KAKI L. f. Diospyraceae. **Kaki.**

No. 944. Near Shawu, Kiangsi Province. December 5, 1926. *Tung tsz* (winter persimmon). Scions of a very large seedling tree, producing an abundance of subconical, medium-sized fruits which are very seedy, but of excellent flavor when ripe. The fruits are ripened artificially in this region by thrusting small sticks into the fruits near the calyx. It requires from two to four days to ripen the fruits this way.

71049 and 71050. ALLIUM CEPA L. Liliaceae. **Onion.**

From Laredo, Tex. Seeds presented by Dan F. Pue, President, T. M. Reid Teneriffe Onion Seed Co., at the request of T. M. Reid, Puerto Orotava, Teneriffe, Canary Islands. Received January 11, 1927.

Canary Island onion varieties.

71049. Crystal wax onion.

71050. Yellow Bermuda onion.

71051 to 71122.

From Leningrad, Russia. Seeds presented by A. Kol, chief, bureau of introduction, Institute of Applied Botany. Received January 4, 1927. Russian-grown seeds.

71051 to 71057. AVENA SATIVA L. Poaceae. **Oats.**

71051. No. 25536. Variety *aurea*. "Khorshavsky." From the Beriosotchonnny Experiment Station, Poltava Government. Originally from the Detskoe Selo Plant-Breeding Station.

71052. No. 25537. Variety *aurea*. "Ryhlík." From the Sabeshinsk Experiment Station.

71053. No. 25538. Variety *aurea*. No. 4192. From the Moscow Plant-Breeding Station. Originally from the Detskoe Selo Plant-Breeding Station.

71051 to 71122—Continued.

71054. No. 25548. Variety *aurea*. No. 4114. From the Moscow Plant-Breeding Station. Originally from the Detskoe Selo Plant-Breeding Station.

71055. No. 25566. Variety *mutica*. No. 18. "Mironovsky." From the Mironovsk Experiment Station, Kiev Government. Originally from the Detskoe Selo Plant-Breeding Station.

71056. No. 25567. Variety *mutica*. "Shatilovsky Neulutchenny." From the Shatilov Experiment Station, Tula Government. Originally from the Detskoe Selo Plant-Breeding Station.

71057. No. 25583. Variety *aristata*. "Vitiás." From the Vjatka Government. Originally from the Detskoe Selo Plant-Breeding Station.

71058 and 71059. CANNABIS SATIVA L. Moraceae. **Hemp.**

71058. No. 10232. Jakut District, Siberia.

71059. No. 10233. From the Orel Government.

71060 to 71063. CITRULLUS VULGARIS Schrad. Cucurbitaceae. **Watermelon.**

71060. No. 10207. "Azhinovsky." Vicinity of Rostov, Don.

71061. No. 10208. "Liubimetz Khutora Pitagorska." From the Kharkov Government.

71062. No. 10210. "Kubansky Korolj." Kuban region.

71063. No. 10214. "Kormovoj." Ekaterinoslav Exhibition, North Caucasian section.

71064 to 71066. CUCUMIS MELO L. Cucurbitaceae. **Melon.**

71064. No. 10215. "Kubovka." Stalingrad Government.

71065. No. 10216. "Tzaritzá Dynj." Kharkov Government.

71066. No. 10219. "Kubanskaya Kantalupa." Kuban District.

71067 to 71073. CUCURBITA spp. Cucurbitaceae.

71067 to 71069. CUCURBITA MAXIMA Duchesne. Squash.

71067. No. 10221. "Volzhanka." Saratov Government.

71068. No. 10223. "Kit." Obtained by the All-Russian Exhibition, Moscow, during 1923.

71069. No. 10224. "Stolovaja Tchalmovaja." Saratov Government.

71070. CUCURBITA MOSCHATA Duchesne. Cuslaw.

No. 10230. "Perekhvatka." Astrakhan Government.

71071 to 71073. CUCURBITA PEPO L. Pumpkin.

71071. No. 10226. "Medovaja." Saratov Government.

71072. No. 10227. "Golossemiannaja." Ekaterinoslav Government.

71073. No. 10228. "Kabatchok gretcheshky." Astrakhan Government.

71074. HEMEROCALLIS sp. Liliaceae. **Day lily.**

No. 26257. A yellow lily.

71075 and 71076. HORDEUM VULGARE NIGRUM (Willd.) Beaven. Poaceae. **Six-rowed barley.**

71051 to 71122—Continued.

71075. No. 10247. Variety *tanolicum*. No. 029, A VII. From the Don region. Originally from the Turkestan Experiment Station.
71076. No. 10248. Variety *leiorrhynchum*. Subvariety *nekludowi*. No. 07CX. From the Turkestan Experiment Station.
- 71077 to 71079. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. Six-rowed barley.
71077. No. 10246. A selected variety. No. 0815 A II. From the vicinity of Turkestan.
71078. No. 10281. "Vjatka." From the Vjatka Experiment Station.
71079. No. 10284. A selected variety. No. 1164. From the Vjatka Experiment Station.
71080. *LAGENARIA LEUCANTHA* (Duchesne) Rusby (*L. vulgaris* Seringe). Cucurbitaceae. Gourd.
- No. 10231. "Gorlianka" or "Butylotch-naha." From the Astrakhan Government.
71081. *LATHYRUS SATIVUS* L. Fabaceae. Bitter vetch.
- No. 10255. Tashkent, Turkestan.
- 71082 to 71086. *LENS ESCULENTA* Moench. Fabaceae. Lentil.
71082. No. 3460. Variety *Pulmani*. "Dymtchataja." Bogoroditzky Experiment Station, Kursk Government. Originally from the Stepnaya Experiment Station.
71083. No. 10043. From Persia. Originally from the Kuban section. No. 6. A pure-line variety.
71084. No. 10046. Variety *nummularia*. No. 62. A pure-line variety from the Saratov Government. Originally from Turkestan.
71085. No. 10051. Variety *nummularia*. No. 62. A pure-line variety from the Saratov Government. Originally from Turkestan.
71086. No. 10052. Variety *nummularia*. No. 62. A pure-line variety from the Penza Government. Originally from Turkestan.
71087. *LILIUM DAURICUM* Ker. Liliaceae. Candlestick lily.
- No. 36358.
71088. *LILIUM MARTAGON* L. Liliaceae. Martagon lily.
- No. 36359. A lily found growing wild from central and southern Europe to southwestern Siberia. The stem is 3 to 6 feet high, often purple spotted, with horizontal deep-green leaves 3 to 6 inches long and dull claret-purple flowers, spotted purplish black, and red anthers. Three to 20 flowers are produced at one time, usually in late June and July.
- For previous introduction see No. 63828.
- 71089 to 71096. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.
71089. No. 2899. Variety *ellipticus*. "Bomba." From the Voronezh Government. Originally from the Stepnaya Experiment Station.
71090. No. 2900. Variety *ellipticus*. "Japonskaia." From the Kursk Government. Originally from the Stepnaya Experiment Station.

71051 to 71122—Continued.

71091. No. 2303. Variety *compressus* × *ellipticus*. From the Kharkof Government. Originally from the Stepnaya Experiment Station.
71092. No. 10107. Variety *oblonga*. "Sparzhavaja." From the Voronezh Government. Originally from the Stepnaya Experiment Station.
71093. No. 10110. Variety *ellipticus*. "Belaja." From Rostov, Don. Originally from the Stepnaya Experiment Station.
71094. No. 10122. Variety *ellipticus*. "Stepnaja." From the Voronezh Government. Originally from the Stepnaya Experiment Station.
71095. No. 10130. Variety *oblongus*. "Pranitchki." From the Kiev Government. Originally from the Stepnaya Experiment Station.
71096. No. 10131. Variety *oblongus compressus*. "Isumrudnaja." From the Voronezh Government. Originally from the Stepnaya Experiment Station.
- 71097 to 71100. *PISUM SATIVUM* L. Fabaceae. Pea.
71097. No. 1092. "Victoria Rosovosemian-naia." A pink-grained variety from Turkestan. Originally from the Stepnaya Experiment Station.
71098. No. 10154. "Ranny Seliony." An early green variety from Turkestan. Originally from the Stepnaya Experiment Station.
71099. No. 10296. Variety *maculatum*. "Gorokh Mestny No. 1." From the Severo-Dvinsk Government. Originally from the Stepnaya Experiment Station.
71100. No. 10307. Variety *umbellatum*. From the Moscow Plant-Breeding Station. Originally from the Stepnaya Experiment Station.
- 71101 and 71102. *SECALE CEREALE* L. Poaceae. Rye.
71101. No. 3005. A yellow-grained winter variety from the Bogoroditzky Experiment Station, Kursk Government.
71102. No. 6765. "Vjatka." From the Vjatka Experiment Station.
- 71103 to 71105. *SPINACIA OLERACEA* L. Chenopodiaceae. Spinach.
71103. No. 9273. Variety *glabra*. From Afghanistan. Originally from the Stepnaya Experiment Station.
71104. No. 9274. Variety *glabra*. From Afghanistan. Originally from the Stepnaya Experiment Station.
71105. No. 9275. Variety *glabra*. From Afghanistan. Originally from the Stepnaya Experiment Station.
- 71106 to 71114. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.
71106. No. 2999. Variety *lutescens*. "Belokoska." No. 62. A selected variety of spring wheat from an experiment station in the Saratov region.
71107. No. 3000. Variety *aibidum*. No. 604. A selected variety of white-grained wheat from an experiment station in the Saratov region.
71108. No. 6985. Variety *millurum*. No. 040. A selected variety of winter wheat from the Ekaterinoslav Government.

711051 to 711122—Continued.

71109. No. 9447. Variety *lutescens*. No. 0479. A selected variety from the Western Siberian Experiment Station, Omsk.

71110. No. 9448. Variety *miturum*. No. 0321. A selected variety from the Western Siberian Experiment Station, Omsk.

71111. No. 10162. Variety *ferrugineum*. No. 2411. A selected variety of winter wheat from the plant-breeding station of the Timiriasev Agricultural Academy, Moscow.

71112. No. 10163. Variety *ferrugineum*. No. 2453. A selected variety of winter wheat from the plant-breeding station of the Timiriasev Agricultural Academy, Moscow.

71113. No. 10167. Variety *alborubrum*. No. 2671. A selected variety from the plant-breeding station of the Timiriasev Agricultural Academy, Moscow.

71114. No. 10244. Variety *graecum*. "Sary Maghis." No. 0289 A IV. Tashkent Turkestan.

71115 to 71122. *VICIA* spp. Fabaceae.

71115 to 71120. *VICIA SATIVA* L. Common vetch.

71115. No. 1073. A pure-line variety from the Saratov Government. Originally from the Stepnya Experiment Station. No. 112.

71116. No. 3463. A pure-line variety from the Saratov Government. Originally from the Stepnya Experiment Station. No. 90.

71117. No. 3464. Obtained from Sernobank, through the Saratov Seed-Testing Station.

71118. No. 10062. A pure-line variety from the Penza Government. Originally from the Stepnya Experiment Station. No. 138.

71119. No. 10063. A pure-line variety from the Saratov Government. Originally from the Stepnya Experiment Station. No. 150.

71120. No. 10068. From the Saratov Government. Originally from the Stepnya Experiment Station.

71121. *VICIA SATIVA LEUCOSPERMA* (Moench) Seringe.

No. 10075. From the Kharkof Government. Originally from the Stepnya Experiment Station.

For previous introduction see No. 52277.

71122. *VICIA VILOSA* Roth. Hairy vetch. No. 10029. From the Homel Government.

71123 to 71127.

From Keijyo, Chosen, Japan. Seeds presented by Dr. M. Tozawa, director, forestry experiment station. Received January 4, 1927.

71123. *LARIX DAURICA PRINCIPIS-RUPPRECHTII* (Mayr) Rehd. and Wils. Pinaceae. Larch.

A hardy Chinese larch which makes a handsome tree, sometimes 70 feet high, with attractive bright-green foliage and shiny cones over an inch long.

For previous introduction see No. 62682.

71124. *PINUS DENSIFLORA* Sieb. and Zucc. Pinaceae. Japanese red pine.

An ornamental Japanese pine, sometimes 120 feet high, with reddish bark and dull blue-green leaves in pairs.

71123 to 71127—Continued.

71125. *PINUS KORAIENSIS* Sieb. and Zucc. Pinaceae. Korean pine.

A hardy, slow-growing pyramidal tree, up to 100 feet in height. The leaves are glossy dark green. Native to Korea and Japan.

71126. *RHODODENDRON DAURICUM MUCRONULATUM* (Turcz.) Maxim. Ericaceae.

A hardy upright Manchurian shrub, up to 6 feet high. The rose-colored flowers appear very early in spring and the leaves turn scarlet in autumn.

71127. *RHODODENDRON SCHLIPPENBACHII* Maxim. Ericaceae.

A deciduous Japanese shrub, 3 to 5 feet high, with broadly oval pubescent leaves 2 to 5 inches long and pale pink flowers, which appear with the leaves in late spring.

71128. *CORYLUS CHINENSIS* Franch. Betulaceae. Chinese hazel.

From Nanking, China. Seeds purchased through Prof. J. H. Reizner, College of Agriculture and Forestry, University of Nanking. Received January 4, 1927.

A handsome spreading tree, 40 meters or less high, native to central and western China. The oval-oblong leaves are up to 18 centimeters long, and the edible nuts are about 1.5 centimeters in diameter.

For previous introduction see No. 62680.

71129. *CHAMAEDOREA* sp. Phoeniceaceae. Palm.

From Tela, Honduras, Central America. Seeds presented by Wilson Popenoe, United Fruit Co. Received January 10, 1927.

A tropical pinnate-leaved palm, native to Honduras. Of possible value as an ornamental house plant.

71130. *ERYTHRINA POEPPIGIANA* (Walp.) O. F. Cook (*E. micropteryx* Poepp.). Fabaceae. Bucare.

From Avon Park, Fla. Seeds presented by C. S. Donaldson. Received January 4, 1927.

A handsome tender leguminous tree with red flowers; native to Peru.

For previous introduction see No. 55040.

71131. *CITRUS SINENSIS* (L.) Osbeck. Rutaceae. Sweet orange.

From Talde, Grand Canary, Canary Islands. Scions collected by David Fairchild, agricultural explorer, with the Allison V. Armour expedition. Received January 21, 1927.

No. 939. December 29, 1926. The fruits of this variety have very little rag and a large amount of juice. They have rather thick skin of peculiar softness, and are shipped to the London market where they bring the top price.

71132 to 71167.

From China. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January, 1927.

71132. *ACER TEGMENTOSUM* Maxim. Aceraceae. Maple.

No. 8742. Collected by I. V. Kosloff, Manchurian Research Society, Harbin, in the vicinity of Shitoukhetsy, Manchuria. October, 1926. An interesting green-barked maple with seeds in long racemes.

For previous introduction see No. 65481.

71132 to 71167—Continued.

71133. *ACER CAUDATUM UKURUNDENSE* (Trautv. and Meyer) Rehder. Aceraceae.
Maple.

No. 8736. Collected by I. V. Kosloff, Manchurian Research Society, Harbin, in the vicinity of Shitoukhetsy, Manchuria. October, 1926. A small Manchurian tree with coarsely toothed five-lobed or seven-lobed leaves.

For previous introduction see No. 65911.

71134. *AMYGDALUS DAVIDIANA* (Carr.) Zabel (*Prunus davidiana* Franch.). Amygdalaceae.
Chinese wild peach.

No. 8859. Fa Hua Ssu Temple, Chihli Province. November 19, 1926. A hardy wild peach used for stock only. It is native to northern China.

71135 to 71138. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

Collected at the Fa Hua Ssu Temple, near Peking. November 19, 1926.

71135. No. 8860.

71136. No. 8861. *Ma nao hung tao* (red agate peach). The freestone fruits, 3 to 4 inches in diameter, are red outside and white within, and ripen during the early part of August. They are grafted on the wild peach.

For previous introduction see No. 62600.

71137. No. 8862. *Pa tao* (flowering peach). The twigs of blossoms, which fade from pink to white and then turn red, are sold here. The fruits, about 1½ inches in diameter and resembling apricots in shape, are freestone and ripen in September, becoming pink.

For previous introduction see No. 62602.

71138. No. 8863. Mixed peach seeds.

Numbers 71139 to 71141 were collected by I. V. Kosloff, of the Manchurian Research Society, Harbin, in the vicinity of Shitoukhetsy, Manchuria. October, 1926.

71139. *ANGELICA* sp. Apiaceae.

No. 8735. A hardy herbaceous plant belonging to the celery family, which may be ornamental. Native to Manchuria.

71140. *BETULA FRUTICOSA* Pall. Betulaceae.
Birch.

No. 8739. A shrub about 15 feet high, with oval-elliptic leaves about 2 inches long. Native to Manchuria and Siberia.

For previous introduction see No. 65917.

71141. *CARPINUS CORDATA* Blume. Betulaceae.
Hornbeam.

No. 8740. A handsome hardy tree 40 feet or less high, with oval-oblong, acuminate leaves 3 to 6 inches long. Native to Japan and Manchuria.

For previous introduction see No. 65920.

71142. *CELASTRUS* sp. Celastraceae.

No. 8828. From the Fa Hua Ssu Temple, Chihli Province. November 19, 1926. A small woody pendulous or climbing ornamental plant which is exceptionally attractive. The seed pod breaks into three parts and is golden yellow. In the center is a cluster of about three white seeds in a red receptacle.

Nos. 71143 to 71145 were collected by I. V. Kosloff, of the Manchurian Research Society, Harbin, in the vicinity of Shitoukhetsy. October, 1926.

71132 to 71167—Continued.

71143. *CLEMATIS BREVICAUDATA* DC. Ranunculaceae.

No. 8731. A vigorous climbing vine, native to China, with pinnate or bipinnate, coarsely toothed leaves and axillary panicles of white flowers.

For previous introduction see No. 65925.

71144. *CODONOPSIS* sp. Campanulaceae.

No. 8732. A hardy herbaceous perennial with showy flowers. Native to Manchuria.

71145. *DEUTZIA PARVIFLORA* Bunge. Hydrangeaceae.

No. 8729. A hardy ornamental shrub 6 feet high, with corymbs of white flowers. Native to northern China.

71146. *GREWIA PARVIFLORA* Bunge. Tiliaceae.

No. 8775. En route from the Ming Tombs to the Fa Hua Ssu Temple, Chihli Province. November 18, 1926. A hardy ornamental woody shrub with dull-green foliage, inconspicuous greenish flowers, and good-sized clusters of black fruits. Native to northern China.

For previous introduction see No. 62229.

71147. *IRIS DICTOMA* Pall. Iridaceae.
Vesper iris.

No. 8833. Fa Hua Ssu Temple, Chihli Province. November 19, 1926. A tall iris, said to have white flowers, found on a very dry rocky mountain side. It is native to northern China.

For previous introduction see No. 65526.

71148. *JUGLANS MANDSHURICA* Maxim. Juglandaceae.

No. 8733. Collected in the vicinity of Shitoukhetsy, by I. V. Kosloff, Manchurian Research Society, Harbin. October, 1926. A hardy Manchurian walnut tree up to 60 feet high, the nuts of which have eight ridges.

For previous introduction see No. 65527.

71149. *JUGLANS REGIA* L. Juglandaceae.
Walnut.

No. 8871. Fa Hua Ssu Temple, Chihli Province. November 20, 1926. *Pao pi ho tao* (thin-shelled walnut). Seeds from a tree 50 or 60 years old with large nuts which are edible in early September. It is said that these walnuts will break if allowed to fall from the trees.

For previous introduction see No. 62614.

71150. *LONICERA MAACKII* (Rupr.) Herd. Caprifoliaceae.
Amur honeysuckle.

No. 8741. Collected in the vicinity of Shitoukhetsy, Manchuria, by I. V. Kosloff, Manchurian Research Society, Harbin. October, 1926. A bush honeysuckle, native to northeastern China, becoming about 10 feet high, with widely spreading branches, dark-green leaves which are downy on both surfaces, and red fruits. The pure-white flowers, an inch in diameter, are produced in pairs on the upper side of the branchlets.

For previous introduction see No. 65937.

71151. *MALUS BACCATA* (L.) Moench (*Pyrus baccata* L.). Malaceae.
Crab apple.

No. 8772. Imianpo, Manchuria. November 11, 1926. A small round-headed hardy handsome tree with white flowers and small fruits which are yellow and red. Native to northeastern Asia.

71132 to 71167—Continued.

71152. *MISCANTHUS SACCHARIFLORUS* (Maxim.) Hack. Poaceae. Grass.

No. 8730. Collected by I. V. Kosloff, Manchurian Research Society, Harbin, in the vicinity of Shitoukhetsy. October, 1926. A tall perennial Chinese grass with large feathery fan-shaped panicles, which is related to the sugar cane.

For previous introduction see No. 66395.

71153. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

No. 8750. Obtained from the village of Fouyusiang, Budoune region, through the Manchurian Research Society, Harbin. November 11, 1926.

71154. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.

No. 8874. Fa Hua Ssu Temple, Chihli Province. November 20, 1926. A northern Chinese climbing variety with black shining seeds.

71155. *PINUS SINENSIS* Lambert. Pinaceae. Chinese pine.

No. 8774. Ming Tombs. November 18, 1926. A tall Chinese tree, up to 70 feet high, with a dark-gray trunk.

For previous introduction see No. 62472.

71156 and 71157. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

Fa Hua Ssu Temple, Chihli Province. November, 1926.

71156. No. 8864. *Ta pien tzu hsing* (flat apricot). Under good conditions the fruits of this variety become 2 or 3 inches in diameter. The kernels are of greater value than the fruits.

71157. No. 8865. A yellow pocket apricot about 2 inches in diameter, which ripens the end of June.

71158. *RHAMNUS* sp. Rhamnaceae.

No. 8831. Fa Hua Ssu Temple, Chihli Province. November 19, 1926. A small hardy, very thorny bush growing in dry soil.

71159. *RIBES MANSHURICUM* (Maxim.) Komarov. Grossulariaceae. Currant.

No. 8738. Collected in the vicinity of Shitoukhetsy, Manchuria, by I. V. Kosloff, Manchurian Research Society, Harbin. A variety producing good-sized bunches of red fruits which are large and of good quality.

For previous introduction see No. 65504.

71160 and 71161. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

Obtained through the Manchurian Research Society, Harbin. November 11, 1926.

71160. No. 8748. From Fouyusiang, Rudoune region.

71161. No. 8749. From Oukieshou, Fushonsiang.

71162. *SPIRAEA* sp. Rosaceae. Spirea.

No. 8743. Collected by I. V. Kosloff, Manchurian Research Society, Harbin. October, 1926. A hardy shrub which is probably an ornamental. Native to Manchuria.

71163 to 71166. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

Obtained through the Manchurian Research Society, Harbin. November 11, 1926.

71132 to 71167—Continued.

71163. No. 8744. From Changchunling.

71164. No. 8745. From Kungpingtzu.

71165. No. 8746. From Ertaskou, Fuyuhshien District.

71166. No. 8747. From Fouyusiang, Budoune region.

71167. *VIBURNUM SARGENTI* Koehne. Caprifoliaceae. Sargent cranberry bush.

No. 8734. Collected by I. V. Kosloff, Manchurian Research Society, Harbin, in the vicinity of Shitoukhetsy, Manchuria. October, 1926. A strong-growing shrub up to 12 or 15 feet high, with large clusters of bright-red fruits which are very attractive.

For previous introduction see No. 65512.

71168 to 71173.

From China. Seeds and scions collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 13, 1927.

71168. *CUCUMIS SATIVUS* L. Cucurbitaceae. Cucumber.

No. 794. Chungmuhiho, Anhwei Province. October 19, 1926. *Wongkwa tsz*.

71169. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

No. 870. Nanking. An unusual variety, probably a seedling, with hairy leaves and fruits which remain green in color when ripe.

71170. *DOLICHOS LABLAB* L. Fabaceae. Hyacinth bean.

No. 652. Nanking. September, 1926. *Pin tan*. An uncommon bean which is brown with a conspicuous white hilum. It is planted in April or May, and the green pods and seeds are eaten from August to October, though the seeds are not eaten when ripe.

71171 and 71172. *ROSA* spp. Rosaceae. Rose

71171. *ROSA* sp.

No. 818. Near Shuching, Anhwei Province. October 16, 1926. A wild rose.

71172. *ROSA* sp.

No. 843. Chileng Mountain, Anhwei Province. October 27, 1926. A wild rose with small very dense clusters of many flowers. The young sprouts are tomentose.

71173. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

For previous introduction and description see No. 71048.

71174. *MACADAMIA TERNIFOLIA* F. Muell. Proteaceae.

From Brisbane, Queensland, Australia. Seeds presented by W. Ewart, honorary secretary, Queensland Acclimatisation Society. Received January 17, 1927.

A thin-shelled form of the macadamia, a handsome evergreen Australian tree which produces large clusters of edible nuts rich in an edible oil similar to olive oil.

71175. *COFFEA* sp. Rubiaceae. Coffee.

From Tananarive, Madagascar. Seeds presented by Paul Dean Thompson, American vice consul. Received January 17, 1927.

Montsaka, a local variety.

71176 to 71256.

From Japan and China. Collected by W. T. Swingle, Bureau of Plant Industry. Received January 12, 1927.

Plants, unless otherwise mentioned.

71176. *ACER DAVIDI* Franch. Aceraceae. **Maple.**

No. 807. A native Chinese maple, 50 to 60 feet high, with large oval heart-shaped coarsely toothed leaves and long pendent clusters of samaras.

For previous introduction see No. 65288.

71177. *ALEURITES MONTANA* (Lour.) Wilson. Euphorbiaceae. **Mu-oil tree.**

No. 802. Chekiang, China. A variety with oil-producing nuts which is allied to the tung-oil tree. Native to southern China.

For previous introduction see No. 66064.

71178. *BUXUS* sp. Buxaceae. **Box.**

No. 857. An ornamental hardy shrub, native to Japan.

71179. *CAMPTOTHECA ACUMINATA* Decaisne. Cornaceae.

No. 803. A handsome quick-growing hardy ornamental tree, related to the dogwood. It becomes 20 meters high with smooth gray bark, and produces numerous heads of white flowers in midsummer. Native to central and southwestern China.

71180 to 71186. *CITRUS* spp. Rutaceae.

71180. *CITRUS DEPRESSA* Hayata.

No. 936. From the Citrus Experiment Station, near Tanushimaru, Japan. A citrus tree native to Taiwan.

71181 to 71185. *CITRUS ICHANGENSIS* Swingle. **Ichang lemon.**

Fruits of a spiny shrub or small tree 5 to 15 feet high, native to central and southwestern China. It differs from other members of the genus chiefly in its very large, thick seeds and its slender leaves, which are four to six times longer than broad. It is also one of the hardiest species of citrus known.

For previous introduction see No. 62349.

71181. No. 823. 71184. No. 826.

71182. No. 824. 71185. No. 827.

71183. No. 825.

71186. *CITRUS ICHANGENSIS* × ?
Hybrid Ichang lemon.

No. 863. From Nanking, China.

71187 to 71236. *CITRUS NOBILIS* UNSHIU Swingle. Rutaceae. **Satsuma orange.**

Numbers 71187 to 71215 are Japanese varieties presented by the Imperial Horticultural Station, Okitsu.

71187. No. 865. *Miyasaki.*

71188. No. 866. *Miyasaki, A-1.*

71189. No. 867. *Moriya.*

71190. No. 868. *Salwatari.*

71191. No. 869. *Yanosaki.*

71192. No. 870. *Yakushigi.*

71193. No. 871. *Shintani wase.*

71194. No. 872. *Tako.*

71195. No. 873. *Hayashi.*

71196. No. 874. *Yamazaki.*

71176 to 71256—Continued.

71197. No. 875. *Taniguchi.*

71198. No. 876. *Suzuki.*

71199. No. 877. *Iwakuma.*

71200. No. 878. *Takahashi.*

71201. No. 879. *Omura wase.*

71202. No. 880. *Minata.*

71203. No. 881. *Matsuda.*

71204. No. 882. *Miyazaki wase.*

71205. No. 883. *Yamada.*

71206. No. 884. *Yamada O.*

71207. No. 885. *Shikahara.*

71208. No. 886. *Tanaka.*

71209. No. 887. *Kama.*

71210. No. 888. *Matsui.*

71211. No. 889. *Takazoe.*

71212. No. 890. *Fugizaki.*

71213. No. 891. *Oba wase.*

71214. No. 892. [No other data.]

71215. No. 893. *Takano.*

Numbers 71216 to 71236 are Japanese varieties from the Citrus Experiment Station, near Tanushimaru.

71216. No. 910. *Aikawa wase.*

71217. No. 911. *Morita wase.*

71218. No. 913. *Suzuki wase.*

71219. No. 914. *Takegami wase.*

71220. No. 915. *Yamada wase.*

71221. No. 916. *Nagata wase.*

71222. No. 919. *Kawano (ace)s wase.*

71223. No. 920. *Yakushiji wase.*

71224. No. 921. *Niguchi wase.*

71225. No. 924. *Chac chou haueh kan.*

71226. No. 925. *Chao chou chao kan (tan kan).*

71227. No. 926. *Chao chou szu chi chieh.*

71228. No. 927. *Chao chou tien chieh.*

71229. No. 930. *Huang yen tsao chieh.*

71230. No. 931. *Huang yen mi chieh.*

71231. No. 932. *Huang yen hung cheih.*

71232. No. 933. *Huang yen tien tai shan chieh.*

71233. No. 934. *Huang yen man chieh.*

71234. No. 943. *Asahikan.*

71235. No. 944. *Kunembo.*

71236. No. 948. *Matsuda wase.*

71237. *CITRUS SINENSIS* (L.) Osbeck.
Sweet orange.

No. 864. A small round tender variety from the Nanking University, China.

71238. *CITRUS TAIWANICA* Tanaka and Shimada.

No. 935. From the Citrus Experiment Station near Tanushimaru, Japan.

71239. *FORTUNEARIA SINENSIS* Rehd. and Wils. Hamamelidaceae.

No. 860. A hardy ornamental shrub, related to the witch-hazel, up to 7 meters high, with oblong-oval leaves 7 to 15 centimeters long and inconspicuous flowers. Native to China.

71176 to 71256—Continued.

71240 to 71243. *FORTUNELLA HINDSII* (Champ.) Swingle (*Atalantia hindsii* Oliver). Rutaceae.

A small shrub with oval-elliptic leathery leaves and small orange fruits. Native to southeastern China.

71240 and 71241. From Wakayama, Japan.

71240. No. 906. 71241. No. 907.

71242 and 71243. From Saitama, Japan.

71242. No. 908. 71243. No. 909.

71244. *KETELEERIA DAVIDIANA* (Bertrand) Beissner. Pinaceae.

No. 861. A coniferous tree native to western China which is closely allied to the firs. It sometimes becomes 100 feet tall, is of pyramidal habit, and has handsome, glossy green, firlke foliage. The tree is said to be somewhat tender to frost, and therefore probably adapted for growing only in the southern half of the United States.

For previous introduction see No. 62254.

71245 to 71248. *MORUS* spp. Moraceae. Mulberry.

Cuttings.

71245. *MORUS* sp.

No. 804 a-c. A variety with green bark.

71246. *MORUS* sp.

No. 805-b.

71247. *MORUS* sp.

No. 806-b.

71248. *MORUS* sp.

No. 808 a-c.

71249. *NAGEIA NAGI* (Thunb.) Kuntze (*Podocarpus nagi* Pilger.). Taxaceae.

No. 859. From China. Originally grown in Japan. An evergreen subtropical tree 30 to 60 feet high, with very narrow, bluish green sharp-pointed leaves about 3 inches long and arranged in two rows on the branches. The fruit is a small fleshy purplish black drupe, which emits a balsamlike fragrance when cut. In Japan the white, fine-grained wood is used for furniture and general building. Propagation is easily carried on by seeds of which the tree produces an abundance.

For previous introduction see No. 55477.

71250. *PHOTINIA SERRULATA* Lindl. Malaceae.

No. 856. An ornamental shrub with dark evergreen leaves and red berries.

71251. *PONCIRUS* sp. Rutaceae.

No. 949. *Kikoku* (*Sappan kikoku*). A small citrus tree from the Citrus Experiment Station near Tanushimaru, Japan.

71252. *POUPARTIA AXILLARIS* (Roxb.) King and Prain. Anacardiaceae.

No. 801. From Chekiang Province (?). A very rapid-growing tree which is quite large and bears yellow edible fruits an inch long. Native to western China.

For previous introduction see No. 44519.

71253. *TAIWANIA CRYPTOMERIOIDES* Hayata. Pinaceae. Taiwan.

No. 862. From the botanic garden, Tokyo, Japan. As described in the Journal of the Arnold Arboretum (vol. 2, p. 35), this is the loftiest tree in the forests of Taiwan, where it rears its small moplike crown well above all its

71176 to 71256—Continued.

neighbors. The average height of this tree is 160 feet, but specimens exceeding 200 feet are known. The trunk is sometimes 30 feet in girth, quite straight, and bare of branches for 100 to 150 feet. It is a strikingly distinct tree, singularly like an old *Cryptomeria*; both trees suggest gigantic lycopods. In the dense forests the crown is small, dome-shaped or flattened, the branches few and short, and one wonders how so little leafage can support so large a tree. When the top is broken by storms, the lateral branches assume an erect position. In the more open forest the branches are massive and wide-spreading, the crown is oval or flattened, and on small trees the branchlets are often pendent. *Taiwania* sheds its small branchlets as do species of *Cryptomeria*, *Cunninghamia*, and *Sequoia*.

For previous introduction see No. 52570.

71254. *THEA SINENSIS* L. Theaceae. Tea.

No. 855. Seeds of Japanese tea.

71255. *VIBURNUM HUPEHENSE* Rehder. Caprifoliaceae. Hupeh viburnum.

No. 858. A fairly hardy, deciduous shrubby species, allied to *Viburnum urightii*, with coarsely toothed, long-pointed, dark-green leaves, and ovoid, dark-red fruits. Native to central China.

For previous introduction see No. 63687.

71256. *CITRUS ICHANGENSIS* Swingle. Rutaceae. Ichang lemon.

For previous introduction and description see No. 71871-84.

71257. *JUGLANS MANDSHURICA* Maxim. Juglandaceae.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 14, 1927.

No. 864. Chiuwashaan, Anhwei Province, November 4, 1926. *Hak to*. Black "English" walnuts, said to grow wild in this region.

For previous introduction see No. 62611.

71258. *GIGANTOCHLOA ASPERA* Hort. Poaceae. Bamboo.

From Peradeniya, Ceylon. Plants collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 19, 1926. Numbered March, 1927.

No. 867. Botanic Gardens. June 9, 1926. A clump bamboo.

71259. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received December 27, 1926. Numbered January, 1927.

No. 701. Chiuwashaan, Anhwei Province, November, 1926. Seeds from several types of fruits. The largest plants seen were from 2 to 3 meters in height, and they were very rare.

71260. *SACCHARUM SPONTANEUM* L. Poaceae. Grass.

From Santiago de las Vegas, Cuba. Cuttings presented by Dr. Gonzalo M. Fortun, Director, Estacion Experimental Agronomica, through E. W. Brandes, Bureau of Plant Industry. Received January 22, 1927.

A tall coarse ornamental tropical grass, related to sugar cane.

71261 to 71387.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January, 1927.

71261. *ALLIUM* sp. Liliaceae. Onion.

No. 659. Nanking. September, 1926. *Lung chau tsung*. A set-forming onion which is also often grown in pots as an ornamental.

71262 and 71263. *ALNUS* spp. Betulaceae. Alder.

71262. *ALNUS* sp.

No. 841-a. Siuhohhan, Mongmoshaan, Anhwei Province. October 26, 1926. *Shui tung kwa*. A fine large straight tree with smooth bark, growing on a river bank.

71263. *ALNUS* sp.

No. 854. Yeungkokpeng, Anhwei Province. October 28, 1926. *Laan tung kwa*.

71264 to 71266. *AMARANTHUS GANGETICUS* L. Amaranthaceae.

71264. No. 667. Nanking. September, 1926. *In tsai*. A widely grown vegetable said to mature more slowly, ripen later, and remain tender longer than any other variety of spinach grown here.

71265. No. 782. Luchowfu, Anhwei Province. October 10, 1926. *Hsun tsai*. A variety planted here in March and ready for use in May.

71266. No. 800. Chungmuhoh, Anhwei Province. October 17, 1926. *Hein tsai*.

71267. *APIUM GRAVEOLENS* L. Apiaceae. Celery.

No. 662. Nanking, September, 1926. *Heung kan*. A variety grown abundantly in this region. The seeds are sown during April in very carefully prepared soil, covered with mats, and watered. The plants, when 4 or 5 inches high, are transplanted into trenches which are 8 to 10 inches deep and 2 feet apart. The trenches are filled with soil about two weeks before harvesting, which is during August and September. The plants are sometimes set out in close order in the beds, to avoid the work of hilling up for blanching.

71268. *ASTER* sp. Asteraceae.

No. 844. Chileng Mountain, Anhwei Province. October 27, 1926. *Paak kuk fa*. A wild aster with an abundance of large pale-blue flowers.

71269 and 71270. *BENINCASA HISPIDA* (Thunb.) Cogn. Cucurbitaceae. Wax gourd.

71269. No. 660. Nanking. September, 1926. *Tung kwa*. A small variety commonly grown in this vicinity. The seeds are sown during March and April and the vines are generally grown on bamboo trellises near ponds. Sometimes they are grown in beds, the rows being 6 or 7 feet apart. The fruits have a tough skin and are easily stored. They become available during July and August and continue to bear until frost, which is generally about November.

71270. No. 665. Nanking. September, 1926. *Tung kwa*. A large late variety, with long, cylindrical fruits, which requires a long growing season.

71271. *BOEHMERIA NIVEA* (L.) Gaud. Urticaceae. Ramie.

No. 858. Near Poonpinkasi, Anhwei Province. November 1, 1926. *Chu ma*. An erect, branched, monoecious shrubby perennial, 1 to 2 meters high, with hairy branches and petioles, which is propagated here, as a rule, by means of

71261 to 71387—Continued.

rooted suckers springing up from the base of the plant. It is cultivated in Kwangtung for the excellent fibers which the stems yield, and the well-known Chinese grass cloth is said to be made from selected fibers.

For previous introduction see No. 65825.

71272. *BOEHMERIA* sp. Urticaceae.

No. 860. Chouhwasshaan, Anhwei Province. November 3, 1926. *Ye chue ma*. Seeds of a wild ramie.

71273 to 71291. *BRASSICA* spp. Brassicaceae.

71273. *BRASSICA* sp.

No. 655. Nanking. September, 1926. *Shi ti hung*. An annual plant with leaves said to be large, somewhat hairy, and curly like endive (*savoy*). It is grown abundantly in this region, and stands cold weather and snow well. The seeds are sown between the months of September and November and are ready for harvesting between February and April. It is utilized almost entirely as a salt vegetable.

71274. *BRASSICA* sp.

No. 658. Nanking. September, 1926. *Paak tsai*. A plant grown extensively here. The seeds are sown during June and July or September and October and are transplanted within about two weeks.

71275. *BRASSICA* sp.

No. 666. Nanking. September, 1926. *Paak tsing tsai*. The seeds are sown during August and September, and the plants are ready for use late in October and November.

71276. *BRASSICA* sp.

No. 668. Nanking. September, 1926. *Tsing tsai*. The earliest variety of this type of vegetable which is grown in this vicinity. It does not stand cold weather.

71277. *BRASSICA* sp.

No. 670. Nanking. September, 1926. *Piu yi tsai*. A vegetable with green petioles and very dark-green leaves which does not form a head. It is highly esteemed by the Chinese and is said to be improved in flavor by frost.

71278. *BRASSICA* sp.

No. 699. Luchowfu, Anhwei Province. October, 1926. *Yau tsai*. A common and very important winter crop in this region, the seeds of which yield an oil called *tsai yau*.

71279. *BRASSICA* sp.

No. 651. Nanking. September, 1926. *Tsing tsai*. A variety, with edible stems and leaves, which does not form a head. The seeds are sown during August and September, and the plants are available on the market in November and December.

71280. *BRASSICA* sp.

No. 775. Shuching, Anhwei Province. October 15, 1926. *Yau tsai*.

71281. *BRASSICA* sp.

No. 776. Shuching, Anhwei Province. October 15, 1926. *Oo ip tsai*. A vegetable, characterized by the very dark-green leaves, which does not form a head. It is the most common vegetable cultivated in this region.

71282. *BRASSICA* sp.

No. 778. Luchowfu, Anhwei Province. October, 1926. *Oo tsai*. A vegetable planted here in early spring, developing very rapidly.

71261 to 71387—Continued.

71283. BRASSICA sp.

No. 780. Luchowfu, Anhwei Province. October 10, 1926. *Jaai ip paak tsoi*. A large-leaved variety which does not form a head. It is planted here in August and is ready for use in December.

71284. BRASSICA sp.

No. 781. Luchowfu, Anhwei Province. October 10, 1926. *Haak tsaui*. A vegetable planted here during December and ready for use in May.

71285. BRASSICA sp.

No. 784. Luchowfu, Anhwei Province. October 11, 1926. *Siu ip paak tsoi*. A small-leaved variety planted in September and ready for use in December.

71286. BRASSICA sp.

No. 797. Chungmuihoh, Anhwei Province. October 17, 1926. *Fa tsoi*. A variety with crinkled leaves.

71287. BRASSICA sp.

No. 798. Chungmuihoh, Anhwei Province. October 17, 1926. *Wong tsoi tsz*.

71288. BRASSICA sp.

No. 804. Chungmuihoh, Anhwei Province. October 17, 1926. *Suen tsoi tsz*.

71289. BRASSICA sp.

No. 805. Chungmuihoh, Anhwei Province. October 17, 1926. *Uen kwang paak tsoi*.

71290. BRASSICA sp.

No. 806. Chungmuihoh, Anhwei Province. October 17, 1926. *Paak oo tsoi*.

71291. BRASSICA sp.

No. 777. Luchowfu, Anhwei Province. October, 1926. *Luet lei hung*.

71292 and 71293. CAPSICUM ANNUUM L. Solanaceae. Red pepper.

71292. No. 650. Nanking. September, 1926. *Laat chiu*. A small, pointed variety which is a very prominent article in the diet of the people in this part of China, especially the poorer classes.

71293. No. 786. Luchowfu, Anhwei Province. October 11, 1926. *Tso foo laat tsui*. An early variety.

71294 and 71295. CHAETOCLOA ITALICA (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.

71294. No. 696. Luchowfu, Anhwei Province. October, 1926. *Shiu mai tsz*. The common "foxtail" millet which is used as birdseed and also for human consumption when ground into flour.

71295. No. 823. Taaihohhau, Anhwei Province. October, 1926. *Siu mai*.

71296 to 71298. CHRYSANTHEMUM CORONARIUM L. Asteraceae.

For previous introduction see No. 64352.

71296. No. 653. Nanking. September, 1926. *Pung ho*. A semivining plant, with a spicy flavor which is characteristic of the genus. It is sown here during the months of November, December, and January. The young stems, leaves, and tips are eaten as a vegetable.

71297. No. 757. Nanking. September, 1926. *Tai ip tang ho*. A very common plant whose leaves and young shoots are eaten as a vegetable. It is marked by a pungent

71261 to 71387—Continued.

flavor characteristic of the genus. This variety is thinly sown in beds during October and November and ready for use in February and March. In the meantime the tips may be cut off while the plants are very young and fried, boiled in salt water, or eaten cold as a salad.

71298. No. 793. Chungmuihoh, Anhwei Province. October 17, 1926. *Tong ho tsoi*.

71299. CLERODENDRUM sp. Verbenaceae.

No. 656. Nanking. October 2, 1926. A strikingly ornamental shrub with fragrant white flowers in large rather loose corymbs followed by blue-green fruits. The persistent red calyxes add to the attractiveness of the shrub.

71300. CUCUMIS MELO L. Cucurbitaceae. Melon.

No. 664. Nanking. September, 1926. *Wong kwa*. A local variety producing slender fruits 10 inches long, with green skin and yellow tips, which are eaten either fresh or cooked. It is planted from the latter part of February until April and is ready to use between May and July. It is sometimes planted in August as a winter crop, and the fruits are then ready to use late in September and October.

71301 and 71302. CUCURBITA MOSCHATA Duchesne. Cucurbitaceae. Cushman.

71301. No. 779. Luchowfu, Anhwei Province. October, 1926. *Naam kwa*. A common flat pumpkin mottled yellow and green.

71302. No. 799. Chungmuihoh, Anhwei Province. October 17, 1926. *Naan kwa tsz*.

71303. LUFFA CYLINDRICA (L.) Roemer (L. aegyptiaca Mill.). Cucurbitaceae.

No. 669. Nanking. September, 1926. *Sz kwa*. A plant with fruits said to reach a length of 5 or 6 feet. The flesh is eaten as a vegetable while young. The Chinese are said to hang a stone on the tip of the fruits in order to make them grow straight, making them easy to peel.

For previous introduction see No. 53903.

71304. CUDRANIA TRICUSPIDATA (Carr.) Bureau. Moraceae.

No. 787. En route from Shuching to Chungmuihoh, Anhwei Province. October 16, 1926. *Cham shue*. A thorny tree 5 to 6 meters high, which apparently grows very slowly. The extremely hard wood is used for tools. In this vicinity the leaves are used to feed silkworms.

For previous introduction see No. 45448.

71305. DAUCUS CAROTA L. Apiaceae. Carrot.

No. 773. Luchowfu, Anhwei Province. October 10, 1926. *Wong lo paak*. A long-rooted carrot grown to a limited extent here.

71306 and 71307. DIOSPYROS LOTUS L. Diospyraceae. Persimmon.

Wild forms growing near Chungmuihoh, Anhwei Province. October, 1926.

71306. No. 814. A flat-calyx form slightly larger in size than the average. These seeds are from a tree about 3 meters high.

71307. No. 816. A high-calyx form with subglobular fruits.

71308. HELIANTHUS ANNUUS L. Asteraceae. Sunflower.

No. 685. Luchowfu, Anhwei Province. October, 1926. *Kwai fa*. The giant sunflower, cultivated throughout this region on the edges of fields and as a companion crop with beans, sweet potatoes, etc.

71261 to 71387—Continued.

71309 to 71311. *SORGHUM VULGARE* Pers. Poaceae. Sorghum.

71309. No. 694. Luchowfu, Anhwei Province. October, 1926. *Ko leung mai*. A nonsaccharine sorghum commonly cultivated throughout this region, along the borders of fields and as a companion crop with soy beans and sweet potatoes. The seeds are ground and used as food, and the empty flower stalks are used to make small brooms.

71310. No. 810. En route from Chungmui-hoh to Taaihohhau, Anhwei Province. October 18, 1926. *Paak ko leung*. A white-seeded variety of nonsaccharine sorghum.

71311. No. 811. En route from Chungmui-hoh to Taaihohhau, Anhwei Province. October 18, 1926. *Hung ko leung*. A red-seeded variety of nonsaccharine sorghum.

71312. *LILIUM* sp. Liliaceae. Lily.

No. 826. Wild plants growing at Taaihohhau, Anhwei Province. October, 1926.

71313. *LILIUM* sp. Liliaceae. Lily.

No. 861. Chihuwashaan, Anhwei Province. November 4, 1926.

71314. *LILIUM* sp. Liliaceae. Lily.

No. 863. Wild plants growing at Chihuwashaan, Anhwei Province. November 3, 1926.

71315. *LIQUIDAMBAR FORMOSANA* Hance. Hamamelidaceae.

No. 827. Taaihohhau, Anhwei Province. October, 1926. *Fung heung shue*. A handsome tree, 20 to 40 meters high, with a straight trunk, a much-branched head, and frequently buttressed roots. The leaves turn to a chestnut-brown or red in the autumn and are retained late into the winter. The leaves of the young plants are five-lobed, while those of adult trees are only three-lobed and smaller. In Kiangsi the wood is used for making tea chests. This is one of the most widely distributed trees in China, being particularly abundant in western Hupeh. It is also cultivated in Japan.

For previous introduction see No. 44666.

71316. *LONICERA* sp. Caprifoliaceae. Honeysuckle.

No. 857. A wild climber growing at the foot of Chileng Mountain, Anhwei Province. October 27, 1926.

71317. *LYCORIS* sp. Amaryllidaceae.

No. 697. Luchowfu, Anhwei Province. October 10, 1926. A small tender bulbous plant with an abundance of scarlet flowers. It is grown extensively in Shanghai for cut flowers.

71318 to 71350. *ORYZA SATIVA* L. Poaceae. Rice.

71318 to 71337. Starchy wet-land varieties obtained through C. M. Heh, acting head, department of agronomy, College of Agriculture and Forestry, University of Nanking. The Nanking field numbers are represented by the letters N. U.

71318. No. 624. N. U. No. 3.

71319. No. 625. N. U. No. 5. The so-called black variety.

71320. No. 626. N. U. No. 6.

71321. No. 627. N. U. No. 7.

71322. No. 628. N. U. No. 9.

71323. No. 629. N. U. No. 10.

71324. No. 630. N. U. No. 11.

71261 to 71387—Continued.

71325. No. 631. N. U. No. 12.

71328. No. 632. N. U. No. 14.

Numbers 71327 to 71332 were originally from Luntang, Kiangsu.

71327. No. 633. 71330. No. 636.

71328. No. 634. 71331. No. 637.

71329. No. 635. 71332. No. 638.

Numbers 71333 to 71336 were originally from Chinkiang, Kiangsu.

71333. No. 639. 71335. No. 641.

71334. No. 640. 71336. No. 642.

71337. No. 643. A purple-chaffed variety, originally from Luntang, Kiangsu.

Numbers 71338 to 71344 are from Luchowfu, Anhwei.

71338. No. 686. *Cheung lau siu*. A beardless variety of starchy, wet-land rice planted in March and harvested in August.

71339. No. 687. *Paak tau*. A white, starchy variety of wet-land rice.

71340. No. 589. *Lau tiu noh*, *Tai paak*. A glutinous variety of wet-land rice.

71341. No. 690. *Waan shiu noh*. A bearded variety of glutinous wet-land rice used locally to make puffed rice.

71342. No. 691. *Oo chu luk*. A black-hulled variety of glutinous rice.

71343. No. 692. *Hau yau noh*. A very late variety of wet-land rice with dark grains inside, which is considered to be of excellent quality. It is used locally to make cakes and candy.

71344. No. 785. *Hak hok tau*. A black-hulled, starchy variety of wet-land rice.

71345. No. 788. Near Chungmuihoh, Anhwei. *Siu tiu siu tau*.

71346. No. 819. From Taaihohhau, Anhwei. *Hoh chuen tau*.

71347. No. 821. From Taaihohhau, Anhwei. *Tai paak kwoh tau*.

71348. No. 855. From Tunghohhau, Anhwei. *Noh mai*. A late variety of wet-land glutinous rice.

71349. No. 856. From Aoptszoo, Anhwei. *Chi noh mai* (late glutinous rice). A late variety of wet-land glutinous rice.

71350. No. 934. Agricultural Experiment Station, Nanchang, Kiangsi. *Ko chuan noh kuk*. A glutinous rice used for making wine.

71351 to 71353. *PISUM SATIVUM* L. Fabaceae. Pea.

71351. No. 654. Nanking. September, 1926. *Waan tau*. A pole pea over a meter high, producing an abundance of small pods, each containing three or four small seeds. The pods and seeds may be eaten when green, though when ripe the seeds are usually cooked with glutinous rice. This variety is planted during October and November and is ready for use in April and May.

71352. No. 683. Luchowfu, Anhwei Province. October, 1926. *Waan tau*. A smooth yellow field pea used in the form of noodles and in soup.

71261 to 71387—Continued.

71353. No. 684. Luchowfu, Anhwei Province. October, 1926. *Liao tau*. A rather small green, somewhat wrinkled variety of field pea which is eaten green, though used chiefly for stock feed after it has become ripe. It is planted in October and harvested in June.

71354 and 71355. *RAPHANUS SATIVUS* L. Brassicaceae. Radish.

71354. No. 661. Nanking. September, 1926. *Hung loh paak*. A tender radish with red skin and white flesh, which is 6 to 8 centimeters in diameter and subglobular. It is eaten raw and shredded in soy sauce as a summer relish. This is a summer variety grown extensively in Nanking.

71355. No. 796. Chungmuihoh, Anhwei Province. October 17, 1926. *Lo fu tsz*.

71356. *RHODODENDRON* sp. Ericaceae.

No. 853. Yeungkokteng, Anhwei Province. October 29, 1926. *Yeung shaan hung*. A handsome rhododendron with flame-colored flowers.

71357 to 71360. *ROSA* spp. Rosaceae. Rose.

71357. *ROSA* sp.

No. 698. Luchowfu, Anhwei Province. October 11, 1926. A scandent rose which may be of interest to rose breeders. The flowers are said to be pink, and the fruits are brick red, oval, and about a centimeter in diameter.

71358. *ROSA* sp.

No. 812. October 18, 1926. *Kam kon tsz*. A wild rose found en route from Chungmuihoh to Taaihohhan, Anhwei Province.

71359. *ROSA* sp.

No. 846. Chileng Mountain, Anhwei Province. October 27, 1926. A wild clamoring rose with red elongated fruits which are solitary or in few-flowered clusters.

71360. *ROSA* sp.

No. 847. Tungchen, Anhwei Province. October 28, 1926. *Cheung miu*. A rank-growing wild rose with dense clusters of small fruits.

71361. *RUBUS* sp. Rosaceae. Raspberry.

No. 845. Chileng Mountain, Anhwei Province. October 27, 1926. A rambling scandent raspberry which may be of interest to raspberry breeders. The leaves, tomentose beneath, are lobed and rugose, and the small red fruits borne in large clusters are rather seedy but of pleasant flavor.

71362 to 71366. *SESAMUM ORIENTALE* L. Pedaliaceae. Sesame.

71362. No. 695. Luchowfu, Anhwei Province. October, 1926. *Paak chue ma*. A white sesame the seeds of which yield an oil used in cooking. They are also used in confections. This species is planted in May and harvested in August and September. It is usually grown along with some other crop, such as beans.

71363. No. 795. Chungmuihoh, Anhwei Province. October 17, 1926. *Wong chue ma*. A white sesame.

71364. No. 803. Chungmuihoh, Anhwei Province. October 17, 1926. *Hak chue ma*.

71365. No. 808. Chungmuihoh, Anhwei Province. October 17, 1926. *Paak chue ma*.

71366. No. 851. Tungchan, Anhwei Province. October 28, 1926. *Hak chue ma*. A black sesame.

71261 to 71387—Continued.

71367. *SMILAX* sp. Smilacaceae.

No. 859. Chiuwashaan, Anhwei Province. November 2, 1926. *Tang tung kwah*. A vine with large leaves and bright-red berries which keep their fresh color far into the autumn.

71368 to 71370. *SOLANUM MELONGENA* L. Solanaceae. Eggplant.

71368. No. 645. Nanking. September, 1926. *Ke tsz*. A variety with subglobular purple fruits, commonly cultivated in this region.

71369. No. 646. Vicinity of Nanking. September, 1926. *Ke tsz, paak ke tsz*. A variety of eggplant with elongated, white-skinned fruits, commonly cultivated in this vicinity. The fruits of this variety are smaller, but of better flavor than No. 645 [No. 71368].

71370. No. 807. Chungmuihoh, Anhwei Province. October 17, 1926. *Ke tsz*.

71371. *SPINACIA OLERACEA* L. Chenopodiaceae. Spinach.

No. 671. Nanking. September, 1926. *Poh tsoi*. A common Chinese spinach cultivated in this region.

71372. *VICIA FABA* L. Fabaceae. Broad bean.

No. 678. Luchowfu, Anhwei Province. October, 1926. *Chaan tau*. A very coarse bean of bush habit, the seeds of which are roasted as a confection. The plants are said to be used as a green-manure crop, for which use the seeds are planted in August after the rice has been harvested, and the young plants are plowed under the following spring.

71373 to 71376. *VIGNA SESQUIPEDALIS* (L.) Frurth. Fabaceae. Yard Long bean.

71373. No. 649. Nanking. September 30, 1926. *Tsz kaan tau*. A variety of Chinese long bean with long brownish red seeds, which is commonly cultivated in this region. It is planted in June and is ready to eat as green beans by August. The pods are said to be purplish in color before they are ripe.

71374. No. 663. Nanking. September, 1926. *Ng uet kaan tau*. A Chinese pole bean with red seeds, planted in March and April and ready for use as green beans in June and July. It is rarely eaten as mature beans.

71375. No. 681. Luchowfu, Anhwei Province. October, 1926. *Chaan (?) tau*. A variety with solid red seeds, used either when green or mature; it has a vining habit.

71376. No. 828. Taaihohhan, Anhwei Province. October, 1926. *Tsung kaan tau*.

71377 to 71380. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

71377. No. 647. Nanking. September, 1926. *Fa kaan tau*. A commonly cultivated variety of long bean which is mottled red and white.

71378. No. 648. Nanking. September, 1926. *Ookan tau*. A variety of the Chinese long bean which is mottled black and white. The seeds are not commonly eaten when green, but are cooked with rice when mature.

71379. No. 675. Luchowfu, Anhwei Province. October, 1926. *Taai hung tau*. A climbing variety which is planted in May and harvested in September.

71380. No. 676. Luchowfu, Anhwei Province. October, 1926. *Fa tau tsz*. A mottled variety of climbing habit.

71261 to 71387—Continued.

71381 to 71386. *ZEA MAYS* L. Poaceae. Corn.71381. No. 792. En route from Shuching to Chungmuhoh, Anhwei Province. October 16, 1926. *Pau luk*. A semident variety.71382. No. 809. En route from Chungmuhoh and Taaihohhau, Anhwei Province. October 18, 1926. *Luk kok*. A variegated variety with a flinty endosperm.71383. No. 830. Taaihohhau, Anhwei Province. October, 1926. *Luk kok*. A pale-yellow flint variety.71384. No. 840. Taaihohhau, Anhwei Province. October, 1926. *Hung kuk kok*. A red sport which occurs very frequently in the corn in this vicinity.71385. No. 841. Taaihohhau, Anhwei Province. October 22, 1926. *Paak luk kok*. A white dent variety with a white cob.71386. No. 652. Tungchan, Anhwei Province. October 28, 1926. *Ue tao luk*. An early variety of flint corn.71387. *TRICYRTISPILOSA* Wall. Melanthiaceae.71388. *IXOPHORUS UNISETUS* (Presl.) Schlecht. Poaceae. Grass.

From Honolulu, Hawaii. Seeds presented by J. M. Westgate, Director, Hawaii Agricultural Experiment Station, through H. N. Vinall, Bureau of Plant Industry. Received January 21, 1927.

A coarse perennial tropical grass, 2½ to 4 feet high, which is excellent stock feed. In Hawaii it yields about 45 tons of green feed per acre. (Westgate.)

For previous introduction see No. 50650.

71389. *CAJANUS INDICUS* Spreng. Fabaceae. Pigeon pea.

From Antigua, British West Indies. Seeds presented by the Superintendent of Agriculture. Received January 22, 1927.

Locally grown seeds.

71390. *FRAXINUS MANDSHURICA* Rupr. Oleaceae. Ash.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 22, 1927.

No. 8703. Slinkins Forest Concession. October, 1926. Collected by I. V. Kosloff, Manchurian Research Society, Harbin. A tall handsome tree with dull-green foliage, native to northeastern Asia.

For previous introduction see No. 64235.

71391 and 71392. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

From Cawnpore, United Provinces, India. Seeds presented by D. Youngman, economic botanist. Received January 23, 1927.

Locally grown varieties.

71391. Black-seeded variety.

71392. White-seeded variety.

71393. *ECDEIOCOLEA MONOSTACHYA* F. Muell. Baloskionaceae.

From Perth, Western Australia. Seeds presented by W. M. Carne, botanist and plant pathologist, Department of Agriculture. Received January 21, 1927.

Collected at Marchagee, Western Australia, November 25, 1926. Locally known as "Sandplain." (Carne.)

A perennial rushlike herbaceous plant, introduced for testing as a possible source of paper-making material. It is native to Western Australia, where it grows in deep sand.

For previous introduction see No. 62232.

71394 to 71403.

From Kharkof, Ukrania, Russia. Seeds presented by All-Ukrainian Seed-Producing Association, through J. W. Pincus, Amtorg Trading Corporation, New York City, N. Y. Received January 22, 1927.

Locally developed varieties.

71394. *ANETHUM GRAVEOLENS* L. Apiaceae. Dill.

For previous introduction see No. 64340.

71395. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.*Piatogorski* (favorite).71396 to 71398. *CUCUMIS SATIVUS* L. Cucurbitaceae. Cucumber.71396. *Nejiski*.71397. *Zelenka* (green).71398. *Viaznikovski*.71399. *CUCURBITA PEPO* L. Cucurbitaceae. Pumpkin.*Greek squash*.71400 and 71401. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.71400. *Wonder of France*.71401. *Emperor William*. A Russian bush bean.71402 and 71403. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

A southern Russian variety which gives two crops a year.

71402. No. 1.

71403. No. 2.

71404. *JUGLANS REGIA* L. Juglandaceae. Walnut.

From Gibraltar, Spain. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received January 22, 1927.

No 926. December, 1926. A large variety of the English walnut sold in a single shop in Gibraltar and which is said to be grown around Ronda, Spain. The quality of the meat is very fine.

71405. *CORMONEMA OVALIFOLIUM* Donn. Smith. Rhamnaceae.

From the city of Guatemala, Guatemala. Seeds presented by Jorge Garcia Salas, Director General of Agriculture, through Paul C. Standley, United States National Museum. Received January 12, 1927.

A small tropical tree, native to Guatemala, where it is planted as an ornamental in parks and used as a shade tree for coffee. In Guatemala it is known as *corte*.

71406. SYAGRUS FLEXUOSA (Mart.)
Beccari (Cocos flexuosa Mart.). Phoe-
nicaceae. Palm.

From St. Leo, Fla. Seeds presented by Father Jerome, St. Leo Academy, through R. A. Young, Bureau of Plant Industry. Received January 22, 1927.

A low Brazilian palm, 9 to 12 feet high, with lax terminal pinnate leaves, 3 to 6 feet long, having 70 to 90 pairs of rigid leaflets.

71407 to 71413. DIOSPYROS KAKI L. f.
Diospyraceae. Kaki.

From Anhwei Province, China. Scions obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February 1, 1927.

71407 and 71408. Shui sz paan tsz tsz. From the Mission Hospital Compound, Luchowfu. October, 1926. A seedless or few-seeded variety with fruits 5 to 7 centimeters in diameter, having eight seed pockets composed of very thin transparent flesh. In shape the fruits are squarish, somewhat flattened, and with a more or less distinct groove on each side proceeding downward from the points of the calyx lobes. The center of the calyx end has a slight depression, and the apex is flat and sometimes rather depressed. The core is pithy only at the very base, just below the calyx, otherwise the flesh is intermediate in nature between that of the seed pocket and that without. When ripe the flesh is soft and sweet with little fiber. The fruits, which must be ripened artificially, are good for shipping. This variety appears on the market early in September and constitutes a large percentage of the supply which is sold in the Nanking market.

71407. No. 731. Tree No. 6.

71408. No. 732. Tree No. 7.

71409. No. 739. Shuching. October 13, 1926. *Hung shiu laat tsiu.* A small, subglobular, seedless or few-seeded, early variety which is conspicuous for its bright-red color when ripe. The flesh is sweet and fairly free from fibers. It must be ripened artificially.

71410 to 71412. Scions from trees growing in the garden of O. J. Goulter, Luchowfu.

71410. No. 768. Tree No. 1. This tree is 5 or 6 years old, apparently a seedling, though possibly grafted below the soil line, as often occurs in this region. The seedless fruits probably belong to the variety commonly grown in this vicinity, but are usually abnormal, having five and sometimes six calyx lobes instead of the usual four. The lobes of the fruits correspond in number, the seed pockets are much branched and aborted, and the core is almost without pith. This variety, of more interest than promise, is of unknown origin.

71411. No. 770. Tree No. 5. This tree and the fruits are apparently identical with No. 769 [No. 70930].

71412. No. 772. Tree No. 4. This tree and the fruits are apparently identical with No. 771 [No. 70931].

71413. These scions were received at the same time as Nos. 731 and 732 [Nos. 71407 and 71408] and were marked tree No. 8, so they are probably from the Mission Hospital Compound, Luchowfu.

71414 to 71432. CAJANUS INDICUS
Spreng. Fabaceae. Pigeon pea.

From Honolulu, Hawaii. Seeds presented by Dr. F. G. Krauss, University of Hawaii, through J. M. Westgate, Director, Hawaii Agricultural Experiment Station. Received January 11, 1927.

71414 to 71432—Continued.

Locally developed varieties.

71414. No. 1. Early drug red.

71415. No. 11. Early Bilaspur red.

71416. No. 15. Early Chanda red.

71417. No. 25. Early Betul red.

71418. No. 29. Early Seoni red.

71419. No. 32. Early Chindwara red.

71420. No. 38. Early Hoshangabad red.

71421. No. 49. Early Khandwa red.

71422. No. 50. Early Burhanspur red.

71423. No. 61. Late Sohagpur red.

71424. No. 84. Early yeotmal white.

71425. No. 143. Early Amraotic red.

71426. No. 147. Early Bhandara white.

71427. Crimson.

71428. Mottled black (sport).

71429. New era strain D.

71430. White Madiad (sport).

71431. No. 2.

71432. No. 3.

71433 to 71796. SOJA MAX (L.) Piper
(Glycine hispida Maxim.). Fabaceae.
Soy bean.

From Nanking, China. Seeds presented by C. M. Hehm, acting head, department of agronomy, College of Agriculture and Forestry, University of Nanking, through Prof. J. H. Reisner, University of Nanking. Received January, 1927.

These soy beans have been planted for at least three years in the experimental plots at the University of Nanking.

71433. No. 1. 71480. No. 28.

71434. No. 2. 71481. No. 29.

71435. No. 3. 71482. No. 30.

71436. No. 4. 71483. No. 31.

71437. No. 5. 71484. No. 32.

71438. No. 6. 71485. No. 33.

71439. No. 7. 71486. No. 34.

71440. No. 8. 71487. No. 35.

71441. No. 9. 71488. No. 36.

71442. No. 10. 71489. No. 37.

71443. No. 11. 71470. No. 38.

71444. No. 12. 71471. No. 39.

71445. No. 13. 71472. No. 40.

71446. No. 14. 71473. No. 42.

71447. No. 15. 71474. No. 43.

71448. No. 16. 71475. No. 46.

71449. No. 17. 71476. No. 47.

71450. No. 18. 71477. No. 49.

71451. No. 19. 71478. No. 51.

71452. No. 20. 71479. No. 52.

71453. No. 21. 71480. No. 53.

71454. No. 22. 71481. No. 57.

71455. No. 23. 71482. No. 58.

71456. No. 24. 71483. No. 64.

71457. No. 25. 71484. No. 65.

71458. No. 26. 71485. No. 69.

71459. No. 27. 71486. No. 71.

71433 to 71796—Continued.

71487. No. 72.	71540. No. 129.
71488. No. 74.	71541. No. 130.
71489. No. 75.	71542. No. 132.
71490. No. 76.	71543. No. 133.
71491. No. 78.	71544. No. 134.
71492. No. 79.	71545. No. 136.
71493. No. 80.	71546. No. 137.
71494. No. 81.	71547. No. 139.
71495. No. 82.	71548. No. 140.
71496. No. 83.	71549. No. 141.
71497. No. 84.	71550. No. 142.
71498. No. 85.	71551. No. 143.
71499. No. 86.	71552. No. 144.
71500. No. 87.	71553. No. 145.
71501. No. 88.	71554. No. 146.
71502. No. 90.	71555. No. 147.
71503. No. 91.	71556. No. 148.
71504. No. 92.	71557. No. 149.
71505. No. 93.	71558. No. 151.
71506. No. 94.	71559. No. 152.
71507. No. 95.	71560. No. 153.
71508. No. 96.	71561. No. 154.
71509. No. 97.	71562. No. 155.
71510. No. 98.	71563. No. 156.
71511. No. 99.	71564. No. 157.
71512. No. 100.	71565. No. 158.
71513. No. 101.	71566. No. 159.
71514. No. 102.	71567. No. 162.
71515. No. 103.	71568. No. 163.
71516. No. 104.	71569. No. 164.
71517. No. 105.	71570. No. 165.
71518. No. 106.	71571. No. 166.
71519. No. 107.	71572. No. 167.
71520. No. 108.	71573. No. 168.
71521. No. 109.	71574. No. 169.
71522. No. 110.	71575. No. 171.
71523. No. 111.	71576. No. 172.
71524. No. 112.	71577. No. 173.
71525. No. 113.	71578. No. 174.
71526. No. 114.	71579. No. 175.
71527. No. 115.	71580. No. 176.
71528. No. 116.	71581. No. 177.
71529. No. 117.	71582. No. 179.
71530. No. 118.	71583. No. 180.
71531. No. 119.	71584. No. 181.
71532. No. 120.	71585. No. 182.
71533. No. 121.	71586. No. 183.
71534. No. 123.	71587. No. 186.
71535. No. 124.	71588. No. 191.
71536. No. 125.	71589. No. 193.
71537. No. 126.	71590. No. 200.
71538. No. 127.	71591. No. 202.
71539. No. 128.	71592. No. 203.

71433 to 71796—Continued.

71593. No. 204.	71632. No. 283.
71594. No. 205.	71633. No. 284.
71595. No. 206.	71634. No. 287.
71596. No. 207.	71635. No. 288.
71597. No. 208.	71636. No. 289.
71598. No. 209.	71637. No. 291.
71599. No. 210.	71638. No. 292.
71600. No. 211.	71639. No. 293.
71601. No. 212.	71640. No. 294.
71602. No. 213.	71641. No. 295.
71603. No. 215.	71642. No. 297.
71604. No. 217.	71643. No. 298.
71605. No. 219.	71644. No. 300.
71606. No. 220.	71645. No. 245.
71607. No. 222.	71646. No. 301.
71608. No. 223.	71647. No. 304.
71609. No. 228.	71648. No. 305.
71610. No. 229.	71649. No. 307.
71611. No. 230.	71650. No. 310.
71612. No. 231.	71651. No. 313.
71613. No. 235.	71652. No. 314.
71614. No. 236.	71653. No. 316.
71615. No. 239.	71654. No. 320.
71616. No. 241.	71655. No. 321.
71617. No. 247.	71656. No. 322.
71618. No. 252.	71657. No. 323.
71619. No. 253.	71658. No. 325.
71620. No. 256.	71659. No. 328.
71621. No. 257.	71660. No. 329.
71622. No. 259.	71661. No. 331.
71623. No. 260.	71662. No. 335.
71624. No. 267.	71663. No. 349.
71625. No. 268.	71664. No. 351.
71626. No. 271.	71665. No. 356.
71627. No. 274.	71666. No. 357.
71628. No. 277.	71667. No. 360.
71629. No. 279.	71668. No. 361.
71630. No. 281.	71669. No. 362.
71631. No. 282.	

Numbers 71670 to 71788 are commercial varieties.

71670. No. 2.	71684. No. 38.
71671. No. 3.	71685. No. 39.
71672. No. 5.	71686. No. 40.
71673. No. 8.	71687. No. 60.
71674. No. 9.	71688. No. 65.
71675. No. 14.	71689. No. 70.
71676. No. 18.	71690. No. 73.
71677. No. 23.	71691. No. 76.
71678. No. 25.	71692. No. 86.
71679. No. 28.	71693. No. 96.
71680. No. 29.	71694. No. 97.
71681. No. 34.	71695. No. 98.
71682. No. 36.	71696. No. 99.
71683. No. 37.	71697. No. 104.

71433 to 71796—Continued.

71698. No. 108.	71744. No. 231.
71699. No. 109.	71745. No. 232.
71700. No. 113.	71746. No. 234.
71701. No. 116.	71747. No. 242.
71702. No. 120.	71748. No. 243.
71703. No. 121.	71749. No. 245.
71704. No. 122.	71750. No. 248.
71705. No. 126.	71751. No. 252.
71706. No. 129.	71752. No. 253.
71707. No. 133.	71753. No. 258.
71708. No. 137.	71754. No. 261.
71709. No. 144.	71755. No. 262.
71710. No. 146.	71756. No. 263.
71711. No. 151.	71757. No. 266.
71712. No. 153.	71758. No. 269.
71713. No. 154.	71759. No. 270.
71714. No. 159.	71760. No. 274.
71715. No. 167.	71761. No. 281.
71716. No. 170.	71762. No. 284.
71717. No. 172.	71763. No. 286.
71718. No. 174.	71764. No. 292.
71719. No. 178.	71765. No. 296.
71720. No. 179.	71766. No. 298.
71721. No. 180.	71767. No. 299.
71722. No. 181.	71768. No. 300.
71723. No. 182.	71769. No. 304.
71724. No. 186.	71770. No. 305.
71725. No. 187.	71771. No. 307.
71726. No. 188.	71772. No. 310.
71727. No. 189.	71773. No. 314.
71728. No. 194.	71774. No. 315.
71729. No. 195.	71775. No. 324.
71730. No. 198.	71776. No. 327.
71731. No. 200.	71777. No. 329.
71732. No. 201.	71778. No. 330.
71733. No. 205.	71779. No. 332.
71734. No. 206.	71780. No. 335.
71735. No. 207.	71781. No. 342.
71736. No. 213.	71782. No. 343.
71737. No. 214.	71783. No. 352.
71738. No. 217.	71784. No. 353.
71739. No. 218.	71785. No. 354.
71740. No. 219.	71786. No. 360.
71741. No. 225.	71787. No. 361.
71742. No. 226.	71788. No. 363.
71743. No. 229.	

Numbers 71789 and 71790 are early varieties.

71789. No. 2. 71790. No. 8.

Numbers 71791 to 71796 are from farmers' fields.

71791. No. 1. 71794. No. 5.

71792. No. 2. 71795. No. 15.

71793. No. 4. 71796. No. 18.

71797. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From St. Thomas, Virgin Islands. Seeds presented by F. Quinones, agricultural assistant, Department of Agriculture, Commerce, and Labor. Received January 28, 1927.

Locally grown seeds.

71798. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Giza, Egypt. Seeds presented by Mah Abaza, director, horticultural section, Ministry of Agriculture. Received January 28, 1927.

Locally grown seeds; this is the only type in our gardens. (Abaza.)

71799 and 71800. GARCINIA DULCIS (Roxb.) Kurz. Clusiaceae.

From Pasaeroean, Java. Seeds presented by Dr. J. de Vries, Government horticulturist. Received January 29, 1927.

An East Indian evergreen tree, up to 40 feet high, with yellow fruits the size of a lime. Of possible use as stock for the mangosteen.

For previous introduction see No. 68028.

71799. No. 4. 71800. No. 5.

71801. PRUNUS ARMENIACA L. Amygdalaceae. Apricot.

From Fez, Morocco, North Africa. Seeds obtained through H. Earle Russell, American consul, Casa Blanca, Morocco. Received January 28, 1927.

A native Moroccan variety. The tree becomes unusually large and flowers and fruits several weeks earlier than the French apricot.

71802. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceae.

Common wheat.

From Kotgarh, Simla Hills, India. Seeds presented by Richard B. Gregg. Received January 21, 1927.

A winter variety of white wheat.

71803 to 71820.

From Luchenza, Nyasaland Protectorate, Africa. Seeds presented by L. S. Norman. Received January 22, 1927.

71803. ALYSICARPUS RUGOSUS (Willd.) DC. Fabaceae.

An erect annual legume, native to southern Asia and Africa. The tough stems are 3 to 4 feet high, and the roots bear nitrogen nodules.

For previous introduction see No. 41884.

71804. BRASSICA sp. Brassicaceae.

Piro No. 1. The leaves of this plant are boiled and eaten as a vegetable by the natives of Nyasaland.

71805. BRASSICA sp. Brassicaceae.

Piro No. 2. A rapidly growing plant the leaves of which are boiled and eaten as a vegetable by the natives of Nyasaland.

71806 to 71810. CROTALARIA spp. Fabaceae.

Native leguminous plants, of possible use as cover plants.

71806. CROTALARIA sp.

A yellow-flowered shrub.

71803 to 71820—Continued.

71807. *CROTALARIA* sp.71808. *CROTALARIA* sp.

A deep-rooted, low-growing bushy plant!

71809. *CROTALARIA* sp.

An alfalfalike plant.

71810. *CROTALARIA* sp.71811. *DOLICHOS LABLAB* L. Fabaceae.

Hyacinth bean.

A local variety grown for human food in Nyasaland.

71812 and 71813. *NICOTIANA TABACUM* L. Solanaceae.

Tobacco.

71812. Possibly a cross with *Nicotiana rustica*.71813. *Chobo giant*.71814. *OXALIS* sp. Oxalidaceae.

A wild sorrel eaten as a vegetable by the natives of Nyasaland.

71815 to 71817. *STROPHANTHUS* spp. Apocynaceae.

Woody climbing plants, native to tropical Africa. Possibly sources of strophanthin, an alkaloid used in medicine.

71815. *STROPHANTHUS* sp.A. *Mbobo*. The most valuable kind; it grows in rich soil.71816. *STROPHANTHUS* sp.B. *Manji matubi*. This plant is said to grow well in stony soil.817. *STROPHANTHUS* sp.

C. A plant found in low damp hot places near sea level.

71818 and 71819. *VIGNA SINENSIS* (Torneo) Savi. Fabaceae.

Cowpea.

Local varieties.

71818. A native bush type said to mature quickly.

71819. A creeping variety.

71820. *VIGNA VEXILLATA* (L.) Rich. Fabaceae.

A South American yellow-flowered climber, growing spontaneously in Nyasaland.

For previous introduction see No. 43607.

71821 and 71822.

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received January 28, 1927.

Locally grown seeds.

71821. *CAJANUS INDICUS* Spreng. Fabaceae.

Pigeon pea.

71822. *VIGNA SINENSIS* (Torneo) Savi. Fabaceae.

Cowpea.

71823. *CHAYOTA EDULIS* Jacq. (*Sechium edule* Swartz). Cucurbitaceae.

Chayote.

From Summit, Canal Zone. Seeds presented by Holger Johansen, plant introduction garden. Received January 22, 1927.

Locally grown fruits from the Canal Zone.

71824. *CAJANUS INDICUS* Spreng. Fabaceae.

Pigeon pea.

From Central Baragua, Baragusa, Cuba. Seeds presented by Dr. D. L. Van Dine, local director, Tropical Plant Research Foundation. Received January 12, 1927.

So far as we know we have only one strain of the pigeon pea or Congo bean. (*Van Dine*.)71825. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceae.

Adsuki bean.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 22, 1927.

No. 839. Shiutin, Anhwei Province. October 24, 1926. *Mai tan*. A locally grown variety.

71826 to 71855.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 26, 1927.

71826. *LILIUM* sp. Liliaceae.

Lily.

No. 8711. October, 1926. Collected by I. V. Kosloff, Manchurian Research Society, Harbin, in the forest concession of the Chinese Eastern Railway, near Shitoukhetsy.

71827 to 71840. *PHASEOLUS AUREUS* Roxb. Fabaceae.

Mung bean.

Seeds obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.

71827. No. 8628. From Huolunchuan, Kirin Province.

71828. No. 8632. From Changchiawa, Kirin Province.

71829. No. 8643. From Tanantun.

71830. No. 8634. [No other data.]

71831. No. 8639. From Hsinglungchen, Kirin Province.

71832. No. 8646. From Haosechan.

71833. No. 8649. From Ershihchiatzu.

71834. No. 8654. From Tassuchan, Kirin Province.

71835. No. 8658. From Kuorlaschienchi.

71836. No. 8665. From Chikete.

71837. No. 8668. From Muhing.

71838. No. 8679. From Chanan.

71839. No. 8683. From Hsianglanchisantso.

71840. No. 8685. [No other data.]

71841 to 71855. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae.

Soy bean.

Obtained through the cooperation of D. McLorn, Postal Commissioner, Harbin.

71841. No. 8625. From Huolunchuan, Kirin Province.

71842. No. 8630. From Changchiawa, Kirin Province.

71843. No. 8636. [No other data.]

71844. No. 8638. From Hsinglungchen, Kirin Province.

71845. No. 8642. From Tanantun.

71846. No. 8647. From Haosechan.

71847. No. 8651. From Ershihchiatzu.

71848. No. 8653. From Chelu.

71849. No. 8655. From Tassuchau, Kirin Province.

71850. No. 8660. From Kuorlaschienchi.

71851. No. 8670. From Aisimen.

71852. No. 8676. From Chikete.

71826 to 71855—Continued.

71853. No. 8680. From Chauan.
 71854. No. 8684. From Hsianglanchisantso.
 71855. No. 8688. [No other data.]

71856 to 71865.

From the Balearic Islands, Canary Islands, and Morocco. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received January, 1927.

71856. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

August, 1925. A perfectly round, dark-green, thin-skinned watermelon of delicious flavor, obtained in the market at Iviza, Balearic Islands.

71857 and 71858. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

71857. Iviza, Balearic Islands, August, 1925. A delicious variety which ripens during the summer.

71858. No. 228-a. Iviza, Balearic Islands. August 17, 1925. A variety with netted fruits $10\frac{1}{4}$ inches long and of exquisite musky flavor.

71859. *ILEX CANARIENSIS* Poir. Aquifoliaceae.

No. 931. Orotava Botanic Gardens, Tenerife, Canary Islands. December 23, 1926. A local distinct variety of the Canary Island holly, an evergreen tree 20 feet high, with oval entire leaves. It thrives in a mild cool climate.

71860. *MIMOSA* sp. Mimosaceae.

No. 936. Orotava Botanic Gardens, Tenerife, Canary Islands. December 23, 1926. A strikingly ornamental climbing species with fernlike leaves and light-yellow flowers.

71861. *MYRICA FAYA* Ait. Myricaceae.

No. 933. Orotava Botanic Gardens, Tenerife, Canary Islands. December 23, 1926. A tree 6 to 8 meters high, common in the Canary and Madeira Islands. It produces small wine-red fruits which are edible like the Japanese *Myrica rubra*.

71862. *POLYCARPaea NIVEA* (Ait.) Webb. Silenaceae.

No. 925. Mogador, Morocco. June, 1925. A low-growing hairy perennial plant, used extensively and successfully in the sand-binding experiments on the sand dunes.

For previous introduction see No. 68152.

71863. *SEMPERVIVUM ARBOREUM* L. Crassulaceae. Houseleek.

No. 934. Orotava, Tenerife, Canary Islands. A handsome plant, 2 feet high, with striking rosettes of leaves and attractive yellow flowers.

71864. *SEMPERVIVUM TABULAEFORME* Haw. Crassulaceae. Houseleek.

No. 935. Near Icod, Tenerife, Canary Islands. December 23, 1926. An ornamental plant with the leaves in flat rosettes 16 inches in diameter, which resemble green dinner plates on the perpendicular cliffs. This is a rare variety in the Canary Islands, occurring in only two places.

71865. *SONCHUS LEPTOCEPHALUS* Cass. Cichoriaceae.

No. 930. Orotava, Tenerife, Canary Islands. December 24, 1926. A shrubby ornamental composite with finely lacinate leaves which have a strong odor of mice. This plant is found on the driest rockiest places in the barrancas of Tenerife. The goats are very fond of it.

71866. *FRAGARIA* sp. Rosaceae.

Strawberry.

From Saint Jean le Blanc, Orleans, Loiret, France. Plants presented by Edmond Versin. Received February 23, 1927.

Ideal.

71867 to 72007.

From China, Japan, and Hawaii. Seeds, scions, and plants collected by W. T. Swingle, Bureau of Plant Industry. Received January, 1927.

Seeds unless otherwise mentioned.

71867 to 71916. *CITRUS* spp. Rutaceae.71867 to 71870. *CITRUS GRANDIS* (L.) Osbeck (C. decumana Murr.). Grapefruit.

71867. No. 841. From China.

71868. No. 842. From China.

71869. No. 846. From Formosa, Japan.

71870. No. 853. From Honolulu, Hawaii.

71871 to 71884. *CITRUS ICHANGENSIS* Swingle. Ichang lemon.

For previous introduction and description see No. 71256.

71871. No. 821.

71872. No. 822 a-b.

71873. No. 823 a-z.

71874. No. 824 a-f.

71875. No. 825 a-b.

71876. No. 826 a-d.

71877. No. 827 a-z.

71878. No. 828 a.

71879. No. 829 a-z.

71880. No. 830 b.

71881. No. 831 a-d.

71882. No. 832 a-b.

71883. No. 834. A small-fruited variety.

71884. No. 834-a. A large-fruited variety.

71885 to 71899. *CITRUS NOBILIS DELICIOSA* (Ten.) Swingle. Mandarin orange.

From China.

71885. No. 837.

71886. No. 838.

71887. No. 843. From Nanking.

71888. No. 844. From Nanking.

71889. No. 845. From Nanking.

71890 to 71905. *CITRUS NOBILIS UNSHUI* Swingle. Satsuma orange.

71890 to 71901. Bud wood from Mikkabi, Shizuoka, Japan.

71890. No. 894. Takegami.

71891. No. 895. Sato.

71892. No. 896. Suzuki.

71893. No. 897. Morita.

71894. No. 898. Horio.

71895. No. 899. Morito.

71896. No. 900. Nagata.

71897. No. 901. Shimidzu.

71898. No. 902. Fujii.

71899. No. 903. Natsume.

71900. No. 904. Natsume shin.

71901. No. 905. Yamada.

71867 to 72007—Continued.

71902. No. 918. *Natsume*. Plant from the Citrus Experiment Station near Tanushimaru, Japan.

71903. No. 950. *Satsuma* (?). Plant.

71904. No. 952. *Yama mikan*. Fruits.

71905. *Ichikawa*. Bud wood.

71906 to 71912. *CITRUS SINENSIS* (L.) Osbeck. Rutaceae. Sweet orange.

71906 to 71911. Collected in China.

71906. No. 835.

71907. No. 825.

71908. No. 836.

71909. No. 839.

71910. No. 840.

71911. No. 848. *Kawabata*.

71912. No. 849. *Keragi*. Collected in Japan.

71913. *CITRUS* sp.

No. 846. Collected in China.

71914. *CITRUS* sp.

No. 847. *Natsumikan*. Collected in Pzu, Japan.

71915. *CITRUS* sp.

No. 850. *Mato buntan*. Collected in Japan.

71916. *CITRUS* sp.

No. 851. From the agricultural farm, Kagoshima, Japan.

71917. *COPERNICIA CERIFERA* Mart. Phoeniceaceae. Carnauba palm.

No. 854. From Honolulu, Hawaii. The wax palm of Brazil, which has fan-shaped leaves and grows to a height of 25 feet. From the leaves is obtained carnauba wax which is used in making phonograph records.

71918 to 71965. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

Scions of Japanese varieties of kaki, collected in Japan. The astringent varieties of this series are marked with an asterisk (*), the nonastringent with a dagger (†).

71918. No. 12410. *Goban*.*

71919. No. 12411. *Yemon*.*

71920. No. 12412. *Yotsumizo*.*

71921. No. 12413. *Gionbo*.*

71922. No. 12414. *Fuyu*.†

71923. No. 12415. *Hana gosho*.†

71924. No. 12416. *Izushi o gosho*.†

71925. No. 12417. *Ye gosho*.†

71926. No. 12418. *Kubo*.†

71927. No. 12419. *Citago*.*

71928. No. 12420. *Monpei*.*

71929. No. 12421. *Aizu mishirazu*.*

71930. No. 12422. *Dojo hachiyo*.*

71931. No. 12423. *Shimofri*.†

71932. No. 12424. *Hira tanenaski*.*

71933. No. 12425. *Saijo*.*

71934. No. 12427. *Inayama*.*

71935. No. 12428. *Enza gosho*.†

71867 to 72007—Continued.

71938. No. 12429. *Chomatsu*.*

71937. No. 12430. *Seihakuji*.*

71938. No. 12431. *Zenjimarui*.†

71939. No. 12432. *Toyooka*.†

71940. No. 12433. *Yokono*.*

71941. No. 12434. *Fuji*.*

71942. No. 12435. *Kuramitsu*.*

71943. No. 12437. *Jisha*.*

71944. No. 12438. *Mizushima*.†

71945. No. 12439. *Shinpei*.*

71946. No. 12440. *Kawabata*.*

71947. No. 12441. *Hagakure*.*

71948. No. 12442. *Tanjin gosho*.†

71949. No. 12443. *Yamato gosho*.†

71950. No. 12444. *Kyara*.†

71951. No. 12445. *Shogatsu*.†

71952. No. 12446. *Ama hyakume*.†

71953. No. 12447. *Jiro*.†

71954. No. 12448. *Anzai*.†

71955. No. 12449. *Fugiwara gosho*.†

71956. No. 12450. *Oku gosho*, No. 37.†

71957. No. 12451. *Dojo hachiya*, No. 41.†

71958. No. 12452. *Fuyu*, No. 33.†

71959. No. 12453. *Fuji*, No. 42.†

71960. No. 12454. *Gionabo*, No. 40.†

71961. No. 12455. *Jiro*, No. 36.†

71962. No. 12456. *Tenzin gosho*, No. 34.†

71963. No. 12458. *Yokono*, No. 33.†

71964. No. 12460. *Gosho*, No. 35.†

71965. No. 12461. *Yotsumizo*, No. 39.†

71968. *FICUS CARICA* L. Moraceae. Fig.

No. 12426. *Omaruba*. Rooted cuttings from Japan.

71967. *HALESIA MACGREGORII* Chun. Styracaceae.

No. 810. From southern Chekiang, China. An ornamental deciduous tree, native to east-central China, with white flowers which appear in the spring.

71968 to 71971. *MORUS* spp. Moraceae. Mulberry.

Plants of locally developed varieties from Japan.

71968. *MORUS* sp.

Nos. 804 and 804 a-c. A mulberry with green bark.

71969. *MORUS* sp.

Nos. 805 and 805-a.

71970. *MORUS* sp.

Nos. 806 and 806-a.

71971. *MORUS* sp.

Nos. 808 and 808 a-b.

71972 to 71976. *MYRICA RUBRA* Sieb. and Zucc. Myricaceae.

Plants of different varieties of a handsome tree, about 20 feet in height, with dark-green, glossy foliage. The globular fruits are quite

71867 to 72007—Continued.

acid, and owing to their fragility and peculiar structure they do not ship well, but the small leafy branches distributed among them as they are packed in the baskets are said to protect them somewhat. The fruits are salted and dried because the fresh fruits are too soft to appeal to the Chinese palate.

For previous introduction see No. 64568.

71972. No. 798. From Yika, near Ningpo, China. A variety with purple fruits about $1\frac{1}{2}$ inches in diameter.

71973. No. 799. From Golden Valley, Shampo, near Ningpo, China. A variety with purple fruits about $1\frac{1}{2}$ inches in diameter.

71974. No. 800. From Golden Valley, Shampo, near Ningpo, China.

71975. No. 12457. *Kamezo shiro*. Scions of a white variety from Japan.

71976. No. 12459. *Kamezo aka*. Scions of a red variety from Japan.

71977. PHOENIX HANCEANA Naud. Phoeniceaceae. Palm.

No. 814. From Taihoku, Taiwan. A Chinese relative of the date palm; it has short tufted stems and pinnate foliage.

71978 and 71979. PHOENIX SYLVESTRIS (L.) Roxb. Phoeniceaceae. Palm.

A pinnate-leaved palm, 25 to 40 feet high, with leaves about 15 feet long and orange-yellow fruits. Native to India.

71978. No. 815. From Honolulu, Hawaii.

71979. No. 816. From Honolulu, Hawaii.

71980. PISTACIA sp. Anacardiaceae. Pistache.

No. 813. From Miyazaki, Japan. A hardy tree which may be of ornamental value.

71981. PSEUDOLARIX AMABILIS (Nelson) Rehder (*P. kaempferi* Gordon). Pinaceae. Golden larch.

No. 812. From China. An ornamental evergreen coniferous tree up to 130 feet high. Native to China and Japan.

71982 to 71984. PYRUS spp. Malaceae. Pear. Plants of local varieties.

71982. PYRUS sp.

No. 12436. *Imamura aki nashi*. From Japan.

71983. PYRUS sp.

No. 12462. *Tai yang*. From Japan.

71984. PYRUS sp.

No. 12463. *Yabi li*. From Japan.

71985. SKIMMIA JAPONICA Thunb. Rutaceae.

No. 817. An evergreen Japanese shrub, 5 feet high, which is densely branched and produces round scarlet fruits.

71986 and 71987. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

71986. No. 819. An unselected common variety from Nanking, China.

71987. No. 820. Seeds of a variety from Nanking, China.

71988. TORREYA JACKII Chun. Taxaceae.

No. 809. Southern Chekiang, China. A small ornamental evergreen tree, 30 feet high, the leaves of which are aromatic when bruised.

71989. XYLOSMA sp. Flacourtiaceae.

Plants of a tropical evergreen Chinese tree which may be of ornamental value.

71867 to 72007—Continued.

71990 to 72007. GOSSYPIMUM spp. Malvaceae.

Cotton.

71990 to 71995. GOSSYPIMUM HIRSUTUM L.

71990. No. 787. From the College of Agriculture, National Southeastern University, Nanking, China. *Chicken-foot* cotton. A long staple variety.

71991. No. 790. *Million-dollar* cotton. Progeny No. S. T. M. 1-1.

71992. No. 791. *Million-dollar* cotton. S. T. M. 196.

71993. No. 793. *Million-dollar* cotton. Progeny No. 90.

71994. No. 794. *Acala*. Progeny No. 105-42-1.

71995. No. 795. *Acala*. Progeny 10-5-40-5.

71996 to 72006. GOSSYPIMUM NANKING Meyen.

Numbers 71996 to 72005 are from the College of Agriculture, National Southeastern University, Nanking, China.

71996. No. 779. *Chicken-foot* cotton.

71997. No. 780. A small, white-flowered cotton.

71998. No. 781. *Putung*. A brown variety.

71999. No. 782. *Kiang yung*. A white-seeded cotton.

72000. No. 783. *Chinding*. A long-staple variety.

72001. No. 784. *Chin ching*. A brown variety.

72002. No. 785. *Yiwu*. A black-seeded cotton.

72003. No. 786. *Shiokun*. A long-staple cotton.

72004. No. 788. *Pehsan*. A brown variety.

72005. No. 789. *Hing hwa*. A white-seeded variety.

72006. No. 796. Asiatic cotton collected near Miyazaki, Japan.

72007. GOSSYPIMUM sp.

No. 797. A Hawaiian tree cotton from the Federal Experiment Station, Honolulu.

72008 and 72009. PRUNUS SERRULATA Lindl. Amygdalaceae.

Oriental cherry.

From Benenden, Kent, England. Scions presented by Capt. Collingwood Ingram. Received February 4, 1927. Descriptions from Ingram, Notes on Japanese Cherries, Journal of the Royal Horticultural Society, vol. 50, pt. 1, 1925.

72008. *Daikoku*. A variety introduced into England about 1905 with large purplish pink double flowers up to 5.5 centimeters wide. The thick purplish red buds are truncated at the end, and the young foliage is yellowish green. The Japanese name signifies "god of prosperity."

72009. *Oriental Weeping* cherry. It is probable that this form is Chinese in origin, since it does not appear ever to have been cultivated in Japan. The deep-pink, double flowers are borne in close fascicles along the pendulous branches.

72010. *ERAGROSTIS* sp. Poaceae.

Grass.

From Bathurst, Gambia, West Africa. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 12, 1927.

No. 1117. Near Cape St. May. A grass, 2 feet high, growing abundantly on cultivated land near the sea.

72011. *JULOSTYLIS ANGUSTIFOLIA* (Arn.) Thwaites. Malvaceae.

From Peradeniya, Ceylon. Seeds presented by F. A. Stockdale, Director of Agriculture. Received January 28, 1927.

A low tree, related to cotton (*Gossypium* spp.), native to Ceylon. The flowers, pale yellow with red centers, are about half an inch across.

72012. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. Six-rowed barley.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 13, 1927.

No. 688. Luchowfu, Anhwei Province. October, 1926. A local variety.

72013 to 72066. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

From Nanking, China. Seeds presented by C. M. Hehm, acting head, department of agronomy, College of Agriculture and Forestry, University of Nanking, through Prof. J. H. Reisner, University of Nanking. Received January, 1927.

These soy beans have been planted for at least three years in the experimental plots at the University of Nanking.

72013. No. 73.	72040. No. 251.
72014. No. 178.	72041. No. 254.
72015. No. 188.	72042. No. 255.
72016. No. 189.	72043. No. 258.
72017. No. 192.	72044. No. 261.
72018. No. 194.	72045. No. 262.
72019. No. 195.	72046. No. 269.
72020. No. 197.	72047. No. 280.
72021. No. 199.	72048. No. 285.
72022. No. 201.	72049. No. 290.
72023. No. 214.	72050. No. 296.
72024. No. 216.	72051. No. 299.
72025. No. 218.	72052. No. 306.
72026. No. 221.	72053. No. 311.
72027. No. 224.	72054. No. 315.
72028. No. 225.	72055. No. 326.
72029. No. 226.	72056. No. 332.
72030. No. 227.	72057. No. 333.
72031. No. 233.	72058. No. 336.
72032. No. 234.	72059. No. 337.
72033. No. 237.	72060. No. 338.
72034. No. 238.	72061. No. 339.
72035. No. 242.	72062. No. 343.
72036. No. 246.	72063. No. 348.
72037. No. 248.	72064. No. 355.
72038. No. 249.	72065. No. 359.
72039. No. 250.	72066. No. 363.

72067 to 72165.

From China. Seeds and scions collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January, 1927.

Numbers 72067 to 72086 are seeds collected in Manchuria through the cooperation of D. McLorn, postal commissioner, Harbin.

72087 to 72076. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. Six-rowed barley.

72067. No. 8627.	From Huolunchuan, Kirin Province.
72068. No. 8631.	From Changchiawa, Kirin Province.
72069. No. 8633.	[No other data.]
72070. No. 8637.	From Hsinglungchen, Kirin Province.
72071. No. 8644.	From Tanantun.
72072. No. 8661.	From Kuorlaschienenchi.
72073. No. 8672.	[No other data.]
72074. No. 8678.	From Chanan.
72075. No. 8681.	From Hsianglanchisantso.
72076. No. 8687.	[No other data.]

72077 to 72086. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

72077. No. 8629.	From Changchiawa, Kirin Province.
72078. No. 8635.	[No other data.]
72079. No. 8641.	From Tanantun.
72080. No. 8650.	From Ershihchiatzu.
72081. No. 8657.	From Tassuchan, Kirin Province.
72082. No. 8664.	From Aisimen.
72083. No. 8669.	From Muhing.
72084. No. 8673.	[No other data.]
72085. No. 8674.	From Bienshuho.
72086. No. 8682.	From Hsianglanchisantso.

Numbers 72087 to 72165 are scions which were collected at the Fa Hua Ssu Temple near Haitzu, Chihli Province, in November, 1926.

72087 to 72095. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

72087. No. 8810.	<i>Ma nao hung tao</i> (red agate peach). A freestone variety producing fruits about 3 inches in diameter, which have red skin and white flesh. They ripen the first part of August.
72088. No. 8811.	<i>Ho yieh hung tao</i> (red lotus leaf peach). A clingstone variety with red-skinned fruits about 2 inches in diameter, which ripen the first part of August.
72089. No. 8836.	<i>White jar</i> peach. A freestone variety with fruits $1\frac{1}{2}$ to 2 inches in diameter, which ripen the last of July and are white with a pink blush.
72090. No. 8837.	<i>Sweet eagle bill</i> peach. The freestone fruits, 1 to $1\frac{1}{4}$ inches in diameter, are pink and ripen the middle of July.
72091. Nos. 2611 and 8844.	<i>Chu yih ching tao</i> (green bamboo leaf peach). The fruits, 3 to $3\frac{1}{2}$ inches in diameter, have pink skin and pale-pink flesh. They ripen in August.
72092. No. 8854.	<i>White hairy</i> peach. The freestone fruits, about $1\frac{1}{4}$ inches in diameter, are white and ripen the middle of August.
72093. No. 8855.	<i>Yellow hairy</i> peach. The freestone fruits, about an inch in diameter, are light yellow and ripen the middle of August.

72067 to 72165—Continued.

72094. No. 8882. *Hsueh tao* (bloody peach). A freestone variety with fruits 2 to 3 inches in diameter, which have pink skin and red flesh and ripen in August. They are rather sour and do not have a very good flavor.

72095. No. 8883. *Chiukang tse tao* (autumn jar peach). A freestone variety producing pink or dull-red fruits, 3 or more inches in diameter, which ripen the last of August.

72096 to 72098. *CASTANEA MOLLISSIMA* Blume. Fagaceae. Hairy chestnut.

72096. No. 8776. *Pai lu li tze* (white dew chestnut). A variety with nuts less than an inch in diameter, which ripen the first of September.

For previous introduction see No. 65858.

72097. No. 8885. *Erh lu li tze* (second crop chestnut).

For previous introduction and description see No. 71028.

72098. No. 8886. *Han lu li tze* (cold dew chestnut).

For previous introduction and description see No. 71027.

72099. *CORYLUS* sp. Betulaceae. Hazel.

No. 8893. Scions from plants growing on the mountain side.

72100. *CRATAEGUS PINNATIFIDA* Bunge. Malaceae. Chinese hawthorn.

No. 8797. A red hawthorn with white-fleshed, edible fruits about an inch in diameter, which ripen the middle of October.

72101. *DIOSPYROS LOTUS* L. Diospyraceae. Persimmon.

No. 8876. Scions of a seedless black "date."

72102 and 72103. *JUGLANS REGIA* L. Juglandaceae. Walnut.

72102. No. 8846. *Pao pi ho tao* (thin-shelled walnut). Scions from a tree 50 or 60 years old. The nuts ripen in early September, and it is said that they will break if they are allowed to fall from the trees.

For previous introduction see No. 62614.

72103. No. 8880. *Ying pi ho tao* (thick-shelled walnut). Scions from a tree 10 years old that has been bearing for three years.

For previous introduction see No. 62613.

72104 to 72112. *MALUS* spp. Malaceae.

72104 to 72107. *MALUS* sp. Crab apple.

72104. *MALUS* sp.

No. 8788. A flat red crab apple about an inch in diameter, which ripens the first of October.

72105. *MALUS* sp.

No. 8794. An oblong sweet pink crab apple 2 to 3 inches in diameter, which ripens the middle of August.

72106. *MALUS* sp.

No. 8795. *Ching mien sha kuo* (red crab apple). A variety with red and light-green fruits, 1½ inches in diameter, which ripen the last of August.

72107. *MALUS* sp.

No. 8819. *Hung hai tung* (red small crab apple). The fruits are one-half to three-fourths of an inch in diameter and ripen the middle of August.

72067 to 72165—Continued.

72108 to 72111. *MALUS SYLVESTRIS* Mill. (Pyrus malus L.). Apple.

72108. No. 8821. *Ta ping kuo* (large apple). A summer apple, 2½ to 4½ inches in diameter, which is green with a pink or red blush. The fruits ripen from about the middle of July to the middle of August. This variety grows on terraced mountain sides and in lower levels, but the quality and color of the fruits are best when grown on hillsides.

72109. No. 8822. *Ta pai ping kuo* (large white apple). A summer apple, about 3 inches in diameter, which is greenish white. The fruits ripen in August.

72110. No. 8823. *Hsiang kuo* (fragrant apple). A very sweet apple 2½ to 3 inches in diameter. It had been grafted on the wild mountain crab apple, *Shan ting tzu*, rooted shoots of which were sent in under No. 1734 [No. 62618].

72111. No. 8824. *Cha hua hsiang kuo* (spotted fragrant apple). A variety with green and pink fruits, 2½ to 3 inches in diameter, which ripen in August.

72112. *MALUS* sp. Crab apple.

No. 8835. *Cha hua sha kuo* (spotted red crab apple). A variety with fruits 1½ inches in diameter, which are light green and red and ripen in August.

72113 to 72127. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

Scions collected at the Fa Hua Ssu Temple, in November, 1926.

72113. No. 8780. *Red flat apricot*. A variety with red fruits, 2½ inches in diameter, which ripen the last of June.

72114. No. 8786. *Hung lao yieh lien hsing* (red face apricot). A freestone variety with sweet kernels. The fruits are 1 to 1½ inches in diameter, white-fleshed, and ripen the last of June.

72115. No. 8799. *White water apricot*. A freestone variety with white fruits, 1½ to 2 inches in diameter, which ripen the last of June.

72116. No. 8800. *Red sea apricot*. Red, freestone fruits 2 inches in diameter, which ripen the first of July.

72117. No. 8801. *Huang pien tze hsing* (yellow-flat-seeded apricot). A clingstone variety with sweet kernels. The fruits are 1½ to 2 inches in diameter and ripen the last of June, becoming yellow.

72118. No. 8802. A red, freestone variety, about 1½ inches in diameter, which ripens about the first of June. This is the earliest of all the varieties.

72119. No. 8803. *Hsiao pai hsing* (small white apricot). A freestone variety, 1 to 1½ inches in diameter, which ripens the middle of June.

72120. No. 8804. *Ta pai hsing* (large white apricot, white god-faced apricot). A white-fleshed freestone variety, 1½ to 2 inches in diameter, with sweet kernels. The fruits ripen the last of June.

72121. Nos. 8798 and 8805. *Tieh pa ta hsing* (iron rod apricot). A freestone variety with red fruits about 1½ to 2 inches in diameter, which ripen the first of July. Both the fruit and kernel are sweet.

72067 to 72165—Continued.

72122. No. 8812. *Ta pien tzu hsing* (flat apricot). A variety 2 to 3 inches in diameter, which is grown more for the kernels than the fruits. The kernels are shipped to the southern part of China, and the people in this region keep a few in their mouths to keep away disease.

72123. No. 8843. For previous introduction and description see No. 71157.

72124. No. 8887. *Pai yu pa ta hsing* (white jade rod apricot). A white freestone variety 2 or more inches in diameter, with sweet kernels. The fruits ripen the last of June.

72125. No. 8888. *Tze pien tze hsing* (red-throned apricot). Red, freestone fruits 1½ inches in diameter, with sweet kernels. The fruits ripen during June.

72126. No. 8889. *Pa ta hsing* (red rod apricot). Dark-yellow clingstone fruits, 1 to 1½ inches in diameter, with sweet kernels. The fruits ripen the last of June.

72127. No. 8890. *Ta huang hsing* (large yellow apricot). A variety producing sweet-kernelled fruits which are yellow blushed with red and ripen the last of June.

72128 to 72141. *PRUNUS* spp. Amygdalaceae.
Plum.

Scions collected at the Fa Hua Ssu Temple, in November, 1926.

72128. *PRUNUS* sp.

No. 8789. *Niu hsin hung li tze* (ox heart red plum). A variety growing on the sides of mountains and canyons at an altitude of 6,000 to 12,000 feet. The fruits, 2 to 3 inches in diameter, are purple or red and ripen the last of July.

72129. *PRUNUS* sp.

No. 8790. *Shé li tze* (puckery plum). A variety which may be useful for plant breeding. The fruits, about an inch in diameter, are red or purple and ripen the middle of July.

72130. *PRUNUS* sp.

No. 8791. A variety with red fruits the size of a grape, which ripen the middle of June.

72131. *PRUNUS* sp.

No. 8796. An autumn plum which ripens the middle of August. The fruits are yellow, freestone, and 2 inches in diameter.

72132. *PRUNUS* sp.

No. 8807. *Ta huang li tze* (large yellow plum). A variety which is grafted on the wild peach. The small trees do not produce good crops every year. The fruits are 1½ to 2 inches in diameter, covered with a bloom, and ripen the first of August.

72133. *PRUNUS* sp.

No. 8816. *San pien hung li tze* (three-color change plum). A very late variety, ripening the last of September; it is not extensively grown. The pink fruits are about 1½ inches in diameter.

72134. *PRUNUS* sp.

No. 8817. *Fo chien hsi li tze* (Buddha happiness plum). Red fruits 1 to 1½ inches in diameter, which ripen the last of August. This is one of the best varieties.

72135. *PRUNUS* sp.

No. 8820. *Yao tze hung li tze* (liver red plum). A purple-red, freestone variety, 1 to 1½ inches in diameter, which ripens in August.

72067 to 72165—Continued.

72136. *PRUNUS* sp.

No. 8839. *Chiao er tan li tze* (bird's-egg plum). A sweet freestone variety with yellow fruits, an inch in diameter, which ripen in July. The trees grow on hillsides. This variety is the smallest of any of the plums.

72137. *PRUNUS* sp.

No. 8840. *Chang pa li tze* (long-stemmed red plum). Round, purple-red fruits, 1½ to 2 inches in diameter, which ripen about the first of July. The trees were growing in decomposed granite.

72138. *PRUNUS* sp.

No. 8841. A small freestone plum about an inch in diameter, which ripens the last of July, becoming purple.

72139. *PRUNUS* sp.

No. 8848. *Ching pi tsui li tze* (green-skinned brittle plum). Freestone fruits which are green when ripe. This is also a late variety, ripening about the last of September.

72140. *PRUNUS* sp.

No. 8853. *Hsiao huang li tze* (small yellow plum). Seedling trees growing on hillsides. The fruits are about an inch in diameter and ripen in July.

72141. *PRUNUS* sp.

No. 8891. *Ta tze li tze* (large purple plum). Fruits 1 to 1½ inches in diameter, purple and red, ripening in July. It is considered a very good variety.

72142 to 72161. *PYRUS* spp. Malaceae. Pear.

Scions collected at the Fa Hua Ssu Temple, November, 1926.

72142. *PYRUS* sp.

No. 8779. *Ya li* (duck pear). Light yellow fruits about 3 inches in diameter, which ripen in September.

72143. *PYRUS* sp.

No. 8781. *Chiu chin pa li* (autumn golden handle pear). A variety with fruits about 2 inches in diameter, which ripen the middle of September.

72144. *PYRUS* sp.

No. 8782. *Ta tang li* (large sugar pear). A variety with dark-brown fruits 3 inches in diameter, which ripen the last of September.

72145. *PYRUS* sp.

No. 8784. *Ta tzu hsiang li* (fragrant pear). A variety with fruits 2 to 3 inches in diameter, which ripen the last of August.

For previous introduction see No. 62642.

72146. *PYRUS* sp.

No. 8785. *Large vase* pear. The yellow fruits, 3 inches in diameter, ripen about the middle of October.

72147. *PYRUS* sp.

No. 8806. *Pai tang li* (white sugar pear). The fruits are about 2 inches in diameter, yellowish white and ripen in September.

72148. *PYRUS* sp.

No. 8808. *Ta tu tzu li* (big stomach pear). A variety with yellow fruits 3 to 4 inches in diameter, which ripen the last of August.

72067 to 72165—Continued.

72149. PYRUS sp.

No. 8809. *Sha kuo li* (crab-apple pear). A summer pear, $1\frac{1}{2}$ to 2 inches in diameter, which ripens the last of August, becoming light yellow blushed with red.

For previous introduction see No. 54837.

72150. PYRUS sp.

No. 8813. *Pai suan li* (white sour pear). A variety producing white or pale-pink fruits from which a yellow vinegar is made. The average fruits are 2 inches in diameter, but when the trees are grown in good soil the fruits are 3 to 4 inches in diameter.

72151. PYRUS sp.

No. 8814. *Hung suan li* (red sour pear). A variety with fruits about $1\frac{1}{2}$ to 2 inches in diameter, from which vinegar is made.

72152. PYRUS sp.

No. 8827. *Honey vase* pear. The yellow fruits, $1\frac{1}{2}$ to 2 inches in diameter, ripen the last of September.

72153. PYRUS sp.

No. 8834. *Pao pi chieh li* (thin-skinned festival pear). A yellow summer pear about 2 inches in diameter, which ripens the last of September.

72154. PYRUS sp.

No. 8842. *Rough-skinned festival* pear. A variety producing fruits which are 2 inches in diameter, white with a pink blush, ripening the middle of September.

72155. PYRUS sp.

No. 8847. *Summer golden handle* pear. The fruits are 2 inches in diameter, and ripen the middle of August, becoming yellow.

72156. PYRUS sp.

No. 8849. *Ma ti huang li* (horseshoe yellow pear). A variety with yellow fruits, 3 to $3\frac{1}{2}$ inches in diameter, which ripen in October.

72157. PYRUS sp.

No. 8852. *Shih li hsiang li* (three miles fragrant pear). A variety which is said to be the earliest. The yellow fruits are about an inch in diameter and $1\frac{1}{2}$ inches long, ripening the first of August.

72158. PYRUS sp.

No. 8856. *Summer white* pear. A variety producing white fruits about 2 inches in diameter, which ripen the middle of August.

72159. PYRUS sp.

No. 8857. *Mien chiu li* (autumn soft pear). A variety with yellow fruits, 2 to 3 inches in diameter, which ripen in September.

72160. PYRUS sp.

No. 8881. *Glorious sugar* pear. A variety with brown fruits about 2 inches in diameter, which ripen the first of October.

72161. PYRUS sp.

No. 8892. *Huang suan li* (yellow sour pear). A variety producing fruits 1 to $1\frac{1}{2}$ inches in diameter, which ripen the last of August. They are of good quality and are used for vinegar.

72162 to 72164. QUERCUS spp. Fagaceae. Oak.

Scions collected at the Fa Hua Ssu Temple, November, 1926.

72067 to 72165—Continued.

72162. QUERCUS DENTATA Thunb.

No. 8873. A broad-leaved oak growing on the mountain side.

72163. QUERCUS sp.

No. 8878. A tall-growing chestnut-leaved oak the bark of which looks different from that of the other oaks. It appears to be an interesting variety.

72164. QUERCUS sp.

No. 8879. *Cold dew* acorn.

72165. (Undetermined.)

No. 8829. A hardy vine with black berries which are not edible.

72166 to 72249.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received December, 1926, and January, 1927.

72166 and 72167. ALEURITES FORDII Hemsl. Euphorbiaceae. Tung-oil tree.

72166. No. 703. From Taaihozhau, Anhwei Province, October 20, 1926. These fruits are from the crop harvested early in September. There is apparently only one variety of wood-oil tree here, although three names are used. *Ng chau tung* (five-clawed) is given to trees which bear lobed leaves. This condition occurs only on rapidly growing young trees or branches, and does not appear to be a permanent character. *Tsao nin tung* is a name said to be applied to those trees which come into bearing very early, within a year or so, but which are short-lived. *Maan nin tung* is given to the trees which come into bearing at the normal time and live to a normal age.

72167. No. 704. Poonpinkaal, southern Anhwei Province. Fruits obtained from a specially prolific 12-year-old tree 6 meters in height, with leaves and bark very clean and free from disease. The fruits were in clusters of 6 to 10. The trees were growing in fertile silt in a river valley, and their thriving condition contrasted sharply with the unhealthy appearance of most of the trees in central Anhwei. For some reason the nuts are not harvested as early in this region as in central Anhwei.

72168. ALLIUM sp. Liliaceae. Onion.

No. 892. From the market at Hankow, Hupeh Province. November 29, 1926. *Chung tsz.*

72169. ALLIUM sp. Liliaceae. Onion.

No. 926. Agricultural Experiment Station, Nanchang, Kiangsi Province. December 2, 1926. *Kan tsoi.*

72170 and 72171. AMARANTHUS GANGETICUS L. Amaranthaceae.

Market at Hankow, Hupeh Province. November 29, 1926. Annual vegetables whose leaves are used as food in China.

For previous introduction see No. 58461.

72170. No. 894. *Hung kai tsoi.*72171. No. 895. *Paak kai tsoi.*

72172. APUM GRAVEOLENS L. Apiaceae. Celery

No. 899. Market at Hankow, Hupeh Province. November 29, 1926. *Kan tsoi tsz.*

72166 to 72249—Continued.

- 72173 and 72174. *BETA VULGARIS* L. Chenopodiaceae. Beet.

From the agricultural experiment station, Nanchang, Kiangsi Province. December 2, 1926.

72173. No. 929. *Hung tim tsoi*.

72174. No. 933. *Kwan taat tsoi*.

- 72175 to 72187. *BRASSICA* spp. Brassicaceae.

Numbers 72175 to 72179 were obtained in Hankow, Hupeh Province. November 29, 1926.

72175. *BRASSICA* sp.

No. 890. *Kin kaan paak tsoi*.

72176. *BRASSICA* sp.

No. 891. *Paak yau tsz*.

72177. *BRASSICA* sp.

No. 896. *Haak paak tsoi*.

72178. *BRASSICA* sp.

No. 902. *Laat tsoi tsz*.

72179. *BRASSICA* sp.

No. 903. *Paak paak tsoi*.

72180. *BRASSICA* sp.

No. 931. *Paak tsoi*. From the agricultural experiment station, Nanchang, Kiangsi Province. December 2, 1926.

72181. *BRASSICA* sp.

No. 932. [No other data.]

Numbers 72182 to 72187 are from the agricultural experiment station, Nanchang, Kiangsi Province. December 2, 1926.

72182. *BRASSICA* sp.

No. 936. *Taat tei paak tsoi*.

72183. *BRASSICA* sp.

No. 938. *Kai tsoi*.

72184. *BRASSICA* sp.

No. 939. *Uen ip suet lei hung*.

72185. *BRASSICA* sp.

No. 940. *Kan chow tsing pat lo*.

72186. *BRASSICA* sp.

No. 942. *Fa ip suet lei hung*.

72187. *BRASSICA* sp.

No. 943. *Haak to wan paak tsoi*.

- 72188 and 72189. *CHAETOCLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.

Agricultural experiment station, Nanchang, Kiangsi Province. December 2, 1926.

72188. No. 935. *To cheung min suk*.

72189. No. 941. *To cheung kan suk*.

- 72190 and 72191. *CHRYSANTHEMUM CORONARIUM* L. Asteraceae.

Hardy annual plants used as a green vegetable in southeastern China.

For previous introduction see No. 64352.

72190. No. 900. Market at Hankow, Hupeh Province. November 29, 1926. *Tong ho tsz*.

72191. No. 930. Agricultural experiment station, Nanchang, Kiangsi Province. December 2, 1926. *Tong ho*.

72166 to 72249—Continued.

72192. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

No. 920. Agricultural experiment station, Nanchang, Kiangsi Province. December 2, 1926. *Haak kwa*.

- 72193 and 72194. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae. Cushaw.

72193. No. 905. Market at Hankow, Hupeh Province. November 29, 1926. *Naam kwa tsz*.

72194. No. 928. Agricultural experiment station, Nanchang, Kiangsi Province. December 2, 1926. *Ting tai naam kwa*.

72195. *DAUCUS CAROTA* L. Apiaceae. Carrot.

No. 925. Agricultural experiment station, Nanchang, Kiangsi Province. December 2, 1926. *Hung loh puk*.

72196. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

No. 945. Near Shawu, Kiangsi Province. December 5, 1926. *Tung tsz*. A large, prolific seedling tree, 15 meters high and 40 centimeters in diameter, which is free from disease and looks promising for stock.

- 72197 and 72198. *DIOSPYROS LOTUS* L. Diospyraceae. Persimmon.

Wild trees 2 to 3 meters high, growing near Chungmihoh, Anhwei Province. October, 1926.

72197. No. 815. Flat-topped, globular fruits.

72198. No. 817. A medium-high calyx form with globular fruits.

72199. *HELIANTHUS ANNUUS* L. Asteraceae. Sunflower.

No. 901. *Kwai fa tsz*. [No other data.]

72200. *SORGHUM VULGARE* Pers. Poaceae. Sorghum.

No. 893. Market at Hankow, Hupeh Province. November 29, 1926. *Ko leung tsz*.

72201. *LACTUCA SATIVA* L. Cichoriaceae. Lettuce.

No. 897. Market at Nankow, Hupeh Province. November 29, 1926. *Ko chue tsz*.

- 72202 to 72204. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceae. Adzuki bean.

72202. No. 832. Taaihohhau, Anhwei Province. October 23, 1926. *Hung mai tau tsz*.

72203. No. 842. Lengkeuk, Anhwei Province. October 27, 1926. *Faan tau*. A small white variety extensively used in this locality to make noodles.

72204. No. 849. Tungchen, Anhwei Province. October 28, 1926. *Hung tau*. A red variety.

- 72205 to 72210. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

72205. No. 673-a. Luchowfu, Anhwei Province. October 10, 1926. *Shiu luk tau*. A bushy plant producing small green beans which are eaten cooked with rice or used in cakes made of glutinous rice. They are also made into flour.

72206. No. 674. Luchowfu, Anhwei Province. October, 1926. *Tai tsing tau*. A bushy variety planted in May and harvested in October. The large green beans are used for human food.

72207. No. 801. Chungmihoh, Anhwei Province. October 17, 1926.

72166 to 72249—Continued.

72208. No. 825. Taaihohhau, Anhwei Province. October, 1926. A variety with small green beans.

72209. No. 831. Taaihohhau, Anhwei Province. October, 1926. *Yewng luk tau*. A variety with small green beans.

72210. No. 907. Market at Hankow, Hupeh Province. November 29, 1926. *Tsoi tau*. Small green beans.

72211 to 72215. *PISUM SATIVUM* L. Fabaceae. Pea.

72211. No. 789. En route from Shuching to Chungmuihoh, Anhwei Province. October 16, 1926. *Wong tau*. A smooth yellow variety.

72212. No. 820. Taaihohhau, Anhwei Province. October, 1926. *Paak wong tau*. A small white variety.

72213. No. 833. Taaihohhau, Anhwei Province. October 24, 1926. *Yewng waan tau*. A small red and green mottled variety.

72214. No. 909. Market at Hankow, Hupeh Province. November 29, 1926. *Paak waan tau*.

72215. No. 923. Agricultural experiment station, Nanchang, Kiangsi Province. December 2, 1926. *Waan tau*.

72216. *RAPHANUS SATIVUS* L. Brassicaceae. Radish.

No. 937. Agricultural experiment station, Nanchang, Kiangsi Province. December 2, 1926. *Wung siu loh paak*.

72217 to 72232. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

72217. No. 673-b. Luchowfu, Anhwei Province. October 10, 1926. *Ming luk tau*. A bushy variety planted in June and harvested in August. The seeds are used to make flour, noodles, and soup.

72218. No. 677. Luchowfu, Anhwei Province. October, 1926. *Siu wong tau*. A bushy variety with small yellow beans which have a pink-margined hilum.

Numbers 72219 to 72222 are from Taaihohhau, Anhwei Province. October, 1926.

72219. No. 829. *Oo tau*.

72220. No. 834. *Tsing tau*. A large green variety.

72221. No. 836. *Siu wong tau*. A small white bean.

72222. No. 837. *Wong tau*. A large yellow soy bean.

72223. No. 850. Tungchan, Anhwei Province. October 28, 1926. *Wong tau*. Yellow soy beans.

Numbers 72224 to 72228 are from a market at Hankow, Hupeh Province. November 29, 1926.

72224. No. 908. *Tsing pei siu tau*.

72225. No. 912. *Taai tsing pei tau*.

72226. No. 913. *Haak wong tau*.

72227. No. 914. *Siu wong tau*.

72228. No. 917. *Taai wong tau*.

Numbers 72229 to 72232 are from Nanchang, Kiangsi Province. December 2, 1926.

72229. No. 918. *Tsing tau*.

72230. No. 919. *Oo tau*.

72231. No. 921. *Cha tau*.

72232. No. 922. *Wong tau*.

72233 to 72249—Continued.

72233. *SPINACIA OLERACEA* L. Chenopodiaceae. Spinach.

No. 898. Market at Hankow, Hupeh Province. November 29, 1926. *Poh tsoi tsz*.

72234 and 72235. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

72234. No. 693. Luchowfu, Anhwei Province. October, 1926. A widely planted winter crop in this region. It is planted by hand in hills during October and November, with a handful of compost in each hill.

72235. No. 822. Taaihohhau, Anhwei Province. October, 1926.

72236 to 72239. *VICIA FABA* L. Fabaceae. Broad bean.

72236. No. 906. Market at Hankow, Hupeh Province. November 29, 1926. *Taai haai chaan tau*.

72237. No. 911. Market at Hankow, Hupeh Province. November 29, 1926. *Tsing pei chaan tau*.

72238. No. 915. Market at Hankow, Hupeh Province. November 29, 1926. *Siu chaan tau*.

72239. No. 924. Nanchang, Kiangsi Province. December 2, 1926. *Chaan tau*.

72240. *VIGNA SESQUIPEDALIS* (L.) Frawirth. Fabaceae. Yard Long bean.

No. 927. Agricultural experiment station, Nanchang, Kiangsi Province. December 2, 1926. *Tsoi tau*.

72241 to 72249. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

72241. No. 679. Luchowfu, Anhwei Province. October, 1926. *Paak mei chaan tau*. Seeds white with a black eye, used for human consumption, chiefly to make noodles.

72242. No. 680. Luchowfu, Anhwei Province. October, 1926. *Ma tso tau tau*. A climber producing mottled pink and tan seeds which are used for human consumption.

72243. No. 790. Chungmuihoh, Anhwei Province. October 17, 1926. *Taai fan tau tau*. A climber with light-brown seeds.

72244. No. 791. Chungmuihoh, Anhwei Province. October 17, 1926. *Taai ue uen paak tau tsz*. White seeds with a black eye.

72245. No. 824. Taaihohhau, Anhwei Province. October, 1926. *Taai kaan tau tsz*.

72246. No. 835. Taaihohhau, Anhwei Province. October, 1926. *Siu kang tau tsz*.

72247. No. 838. Taaihohhau, Anhwei Province. October, 1926. *Wong kaan tsz tau*.

72248. No. 848. Tungchen, Anhwei Province. October 28, 1926. *Kaan tau*. A white variety with a purple eye.

72249. No. 910. Market at Hankow, Hupeh Province. November 29, 1926. *Paak faan tau*. Mixed seeds.

72250. *CRYPTOSTEGIA MADAGASCARIENSIS* Bojer. Asclepiadaceae.

From Port au Prince, Haiti. Seeds collected by Alfred Keys, Bureau of Plant Industry. Received January 31, 1927.

A climbing shrubby vine, native to Madagascar, which is grown as an ornamental in South Africa and elsewhere. The leaves are short and leathery and the whitish or pink flowers are 2 to 3 inches wide.

For previous introduction see No. 64655.

72251 and 72252.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, Regius Keeper, Royal Botanic Gardens. Received January 22, 1927.

72251. COROKIA COTONEASTER Raoul. Corn-aceae.

An evergreen shrub, native to New Zealand, with curiously interlacing branches and small yellow flowers.

For previous introduction see No. 66283.

72252. PISUM SATIVUM L. Fabaceae. **Pea.**

Locally grown seeds.

72253 to 72255. ZEA MAYS L. Poaceae. Corn.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January, 1927.

72253. No. 644. An improved variety of Chinese yellow flint corn obtained through the department of agronomy, Nanking University, September 24, 1926.

72254. No. 682. Luchowfu, Anhwei Province. October, 1926. *Luk kok tsz.* An inferior variety of flint corn which is commonly grown here.

72255. No. 916. Market at Hankow, Hupeh Province. November 29, 1926. *Paan suk.* Mixed yellow and white corn.

72256 to 72259. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Georgetown, Demerara, British Guiana. Seeds presented by the acting director, Science and Agricultural Department. Received February 1, 1927.

Locally developed varieties.

72256. An ash-colored variety.

72257. An uncommon purple variety.

72258. A common brown-colored variety.

72259. A cacao-brown variety.

72260. EREMOCHLOA OPHIUROIDES (Munro) Hack. Poaceae. Grass.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 14, 1927.

No. 813. Taalihohhau, Anhwei Province. October, 1926. *Paan kan tso.* A stoloniferous lawn grass about 4 inches high, which keeps its deep green color during the winter. It seeds very sparsely and is propagated by runners. This grass is found chiefly in sandy river bottom land where it often forms pure stands and is apparently an excellent soil binder.

For previous introduction see No. 65839.

72261 to 72387.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January, 1927.

72261. AVENA SATIVA L. Poaceae. **Oats.**

No. 8662. From Aisimen. Received through the cooperation of D. McLorn, Postal Commissioner, Harbin.

72262. SORGHUM VULGARE Pers. Poaceae. **Sorghum.**

No. 8952. From Pinganpu, Kirin Province. Received through the cooperation of D. McLorn, Postal Commissioner, Harbin.

72261 to 72387—Continued.

72263 to 72297. HORDEUM VULGARE PALLIDUM Seringe. Poaceae. **Six-rowed barley.**

Numbers 72263 to 72268 are seeds obtained through D. McLorn, Postal Commissioner, Harbin.

72263. No. 8648. From Ershihchiatzu.

72264. No. 8656. From Tassuchan, Kirin Province.

72265. No. 8663. From Aisimen.

72266. No. 8667. From Chikete.

72267. No. 8671. From Muhing.

72268. No. 8675. From Bienshubo.

Numbers 72269 to 72274 are seeds obtained through the Manchurian Research Society, Harbin.

72269. No. 8753. From the vicinity of Old Harbin.

72270. No. 8754. From the Ashpkheski region.

72271. No. 8756. From Sansintunp South (Lekke?), near Harbin.

72272. No. 8762. From the vicinity of Siantiakhan.

72273. No. 8763. From near Sinleedir.

72274. No. 8766. From the vicinity of Dunin.

Numbers 72275 to 72297 are seeds obtained through D. McLorn, Postal Commissioner, Harbin.

72275. No. 8894. From Matita.

72276. No. 8897. From Taipingchen, Kirin Province.

72277. No. 8901. From Heltingtzu, Kirin Province.

72278. No. 8904. From Shihtouhtze, Heilungkiang Province.

72279. No. 8908. From Hunchun.

72280. No. 8912. From Hsiaertai, Kirin Province.

72281. No. 8915. From Michiang.

72282. No. 8919. From Poli, Kirin Province.

72283. No. 8923. [No data.]

72284. No. 8927. From Tumentze, Kirin Province.

72285. No. 8932. From Chunghochen, Heilungkiang Province.

72286. No. 8936. From Hullungfeng, Kirin Province.

72287. No. 8939. From Chunghochen, Kirin Province.

72288. No. 8943. From Hsiaoshantze, Kirin Province.

72289. No. 8946. From Shihjenchengtze.

72290. No. 8954. From Paochuanchen, Heilungkiang Province.

72291. No. 8958. From Shuangho, Heilungkiang Province.

72292. No. 8962. From Erkoshan, Heilungkiang Province.

72293. No. 8966. From Kaochiatien, Kirin Province.

72294. No. 8970. From Loanchen, Heilungkiang Province.

72261 to 72387—Continued.

72295. No. 8975. From Ssutaokou.

72296. No. 8979. From Machiaoho.

72297. No. 8983. From Liangshuichuantze, Kirin Province.

72298 to 72324. *PHASEOLUS* spp. Fabaceae.

Seeds obtained through D. McLorn, Postal Commissioner, Harbin.

72299. *PHASEOLUS ANGULARIS* (Willd.) W. F. Adzuki bean.

No. 8953. From Pinganpu, Kirin Province. A small white variety.

72299 to 72321. *PHASEOLUS AUREUS* Roxb. Mung bean.

72299. No. 8895. From Matita.

72300. No. 8899. From Taipingshen, Kirin Province.

72301. No. 8902. From Heitingtzu, Kirin Province.

72302. No. 8906. From Shihtouhotze, Heilungkiang Province.

72303. No. 8910. From Hunchun.

72304. No. 8914. From Hsiaertai, Kirin Province.

72305. No. 8917. From Michiang.

72306. No. 8921. From Poli, Kirin Province.

72307. No. 8925. [No other data.]

72308. No. 8930. From Tumentze, Kirin Province.

72309. No. 8934. From Chungghochen, Heilungkiang Province.

72310. No. 8937. From Huilungfeng, Kirin Province.

72311. No. 8941. From Chungghochen, Kirin Province.

72312. No. 8948. From Shihjenchengtze.

72313. No. 8950. From Pinganpu, Kirin Province.

72314. No. 8956. From Paochuanchen, Heilungkiang Province.

72315. No. 8960. From Shuangho, Heilungkiang Province.

72316. No. 8964. From Erkoshan, Heilungkiang Province.

72317. No. 8968. From Kaochiatien, Kirin Province.

72318. No. 8972. From Loanchen, Heilungkiang Province.

72319. No. 8977. From Ssutaokou.

72320. No. 8981. From Machiaoho.

72321. No. 8985. From Liangshuichuantze, Kirin Province.

72322 to 72324. *PHASEOLUS VULGARIS* L. Common bean.

72322. No. 8918. From Michiang.

72323. No. 8935. From Chungghochen, Heilungkiang Province.

72324. No. 8949. From Shihjenchengtze.

72325 to 72345. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

Seeds received through D. McLorn, Postal Commissioner, Harbin.

72261 to 72387—Continued.

72325. No. 8896. From Matita, near Hunchun, Korea.

72326. No. 8900. From Taipingshen, Kirin Province.

72327. No. 8903. From Heitingtzu, Kirin Province, near Hunchun.

72328. No. 8907. From Shihtouhotze, Heilungkiang Province, near Mulan.

72329. No. 8911. From Hunchun.

72330. No. 8914. From Hsiaertai, Kirin Province.

72331. No. 8922. From Poli, Kirin Province.

72332. No. 8926. [No data.]

72333. No. 8931. From Tumentze, Kirin Province, near Hunchun.

72334. No. 8938. From Huilungfeng, Kirin Province, near Hunchun.

72335. No. 8942. From Chungghochen, Kirin Province.

72336. No. 8945. From Hsiaoshantze, Kirin Province.

72337. No. 8951. From Pinganpu, Kirin Province.

72338. No. 8957. From Paochuanchen, Heilungkiang Province.

72339. No. 8961. From Shuangho, Heilungkiang Province.

72340. No. 8965. From Erkoshan, Heilungkiang Province.

72341. No. 8969. From Kaochiatien, Kirin Province.

72342. No. 8973. From Loanchen, Heilungkiang Province.

72343. No. 8978. From Ssutaokou.

72344. No. 8982. From Machiaoho.

72345. No. 8986. From Liangshuichuantze, Kirin Province.

72346 to 72387. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

Numbers 72346 to 72353 were obtained through D. McLorn, Postal Commissioner, Harbin.

72346. No. 8626. From Huolunchuan, Kirin Province.

72347. No. 8640. From Hsinglungchem, Kirin Province.

72348. No. 8645. From Haosechan.

72349. No. 8652. From Chelu.

72350. No. 8659. From Kueralaschienenchi.

72351. No. 8666. From Chikete.

72352. No. 8677. From Chanan.

72353. No. 8686. [No other data.]

Numbers 72354 to 72368 were obtained through the Manchurian Research Society, Harbin.

72354. No. 8751. From Fanchen.

72355. No. 8752. From Tulbosian.

72356. No. 8755. A variety called *Stari Kharbinsu*.72357. No. 8757. A variety called *Stari Kharbin*, obtained at Old Harbin.

72358. No. 8758. [No other data.]

72261 to 72387—Continued.

72359. No. 8759. Vicinity of Echo.
 72380. No. 8760. From near Fannowsuy.
 72381. No. 8761. From Usiantsi.
 72382. No. 8764. From near Seitsiankou.
 72383. No. 8765. From the vicinity of Dunien.
 72384. No. 8767. From the vicinity of Tsitzkari.
 72385. No. 8768. From the vicinity of Tskr.
 72386. No. 8769. [No other data.]
 72387. No. 8770. From the vicinity of Sunviagarr.
 72388. No. 8771. From the vicinity of Chjatzsikan.

Numbers 72369 to 72387 were obtained through D. McLorn, Postal Commissioner, Harbin.

72369. No. 8898. From Taipingchen, Kirin Province.
 72370. No. 8905. From Shihtouhotze, Heilungkiang Province.
 72371. No. 8909. From Hunchun.
 72372. No. 8916. From Michiang.
 72373. No. 8920. From Poli, Kirin Province.
 72374. No. 8924. [No other data.]
 72375. No. 8929. From Tumentze, Kirin Province.
 72376. No. 8933. From Chunghochun, Heilungkiang Province.
 72377. No. 8940. From Chunghochen, Kirin Province.
 72378. No. 8944. From Hsiaoshantze, Kirin Province.
 72379. No. 8947. From Shihjenchengtze.
 72380. No. 8955. From Paochuanchen, Heilungkiang Province.
 72381. No. 8959. From Shuangho, Heilungkiang Province.
 72382. No. 8963. From Erkoshan, Heilungkiang Province.
 72383. No. 8967. From Kaochiatien, Kirin Province.
 72384. No. 8971. From Loanchen, Heilungkiang Province.
 72385. No. 8976. From Ssutaokou.
 72386. No. 8980. From Machiaoho.
 72387. No. 8984. From Liangshiuchuantze, Kirin Province.

72388. CORYLUS COLURNA L. Betulaceae. Turkish hazel.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received January 31, 1927.

The Turkish hazel is a vigorous, free-growing tree, up to 60 feet in height, with a stout trunk, more or less horizontal branches, heart-shaped, glossy green leaves 5 inches long, and small hard-shelled nuts inclosed in fleshy hairy green involucre.

For previous introduction see No. 51779.

72389 to 72393. BRASSICA OLERACEA CAPITATA L. Brassicaceae. Cabbage.

From Ukrania, Russia. Seeds presented by the Poltova Experiment Station through J. W. Pincus, Amtorg Trading Corporation, New York, N. Y. Received February 1, 1927.

72389. No. 287. *Bulgarian*. A late variety.
 72390. No. 288. *Levetka*. A late variety.
 72391. No. 290. *Perfection*. An early variety.
 72392. No. 293. *Zavorakianskaja*. A late variety.
 72393. No. 1298. *Erfurt*. An early variety.

72394 to 72397.

From Catania, Sicily. Plants purchased from Giardino Allegra. Received February 9, 1927. Italian varieties.

- 72394 to 72396. *CORYLUS AVELLANA* L. Betulaceae. Filbert.
 72394. *d'Inghilterra*.
 72395. *Precoce de Frauendorf*.
 72396. *Principessa reale*.

72397. *PRUNUS AVIUM* L. Amygdalaceae. Sweet cherry.

Marascona di Verona No. 31.

72398 to 72423.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January, 1927.

These seeds were collected by I. V. Kosloff, Manchurian Research Society, Harbin.

Numbers 72398 to 72400 are seeds collected in the forest concession of the Chinese Eastern Railway, in the vicinity of Shitoukhetsy.

72398. *ACANTHOPANAX SENTICOSUM* (Rupr.) Harms. Araliaceae.

No. 8719. A hardy, spiny shrub native to northern China, with large palmate leaves and umbels of black berries.

For previous introduction see No. 65907.

72399. *ACANTHOPANAX SESSILIFLORUM* (Rupr. and Maxim.) Seem. Araliaceae.

No. 8705. A hardy deciduous shrub 10 feet high, with three-lobed to five-lobed leaves, brownish flowers, and black berries.

For previous introduction see No. 65908.

- 72400 to 72402. *ACER* spp. Aceraceae. Maple.

72400. *ACER BARBINERVE* Maxim.

No. 8701. A shrubby maple, native to Manchuria, with coarsely toothed five-lobed leaves.

For previous introduction see No. 65909.

72401. *ACER MANDSHURICUM* Maxim.

No. 8727. Slinkins forest concession. A hardy Manchurian maple which forms a shrub or small tree.

For previous introduction see No. 65480.

72402. *ACER PICTUM MONO* (Maxim.) Pax.

No. 8720. Collected in the forest concession of the Chinese Eastern Railway, in the vicinity of Shitoukhetsy. A hardy Manchurian tree up to 60 feet high, with leaves somewhat heart-shaped.

72398 to 72423—Continued.

72403. *ACONITUM ALBO-VIOACEUM* Komarov.
Ranunculaceae.

No. 8712. Collected in the forest concession of the Chinese Eastern Railway in the vicinity of Shitoukhetsy. An ornamental hardy herbaceous perennial with white and violet flowers. Native to northeastern Asia.

72404. *ACONITUM VOLUBILE* Koelle. Ranunculaceae.

No. 8713. Collected in the forest concession of the Chinese Eastern Railway, in the vicinity of Shitoukhetsy. A blue-flowered hardy herbaceous perennial up to 6 feet high.

72405. *ACTAEA SPICATA* L. Ranunculaceae.
Black baneberry.

No. 8709. Collected in the Tiger forest of the Chinese Eastern Railway, in the vicinity of Shitoukhetsy. A tall, hardy, herbaceous perennial, with a long spike of purple-black fruits, resembling that of the pokeberry.

For previous introduction see No. 65483.

Numbers 72406 to 72411 were collected in the forest concession of the Chinese Eastern Railway, in the vicinity of Shitoukhetsy.

72406. *BERBERIS AMURENSIS* Rupr. Berberidaceae.
Amur barberry.

No. 8716. A hardy handsome shrub up to 8 feet high, with racemes of scarlet berries.

For previous introduction see No. 54062.

72407. *BETULA JAPONICA* Siebold. Betulaceae.
Birch.

No. 8704. A hardy Japanese tree up to 60 feet high, with broadly oval leaves, which is closely related to *Betula pendula*.

For previous introduction see No. 65062.

72408. *CIMICIFUGA FOETIDA* L. Ranunculaceae.

No. 8722a. A hardy herbaceous perennial 4 feet high, with light-yellow flowers.

72409. *EUONYMUS MACROPTERUS* Rupr. Celastraceae.

No. 8700. A shrub or small tree, about 20 feet high, with narrowly oval, wedge-shaped leaves, dense clusters of yellowish flowers, and pink fruits. Native to northeastern Asia.

For previous introduction see No. 66367.

72410. *LONICERA MAACKII* (Rupr.) Herd. Caprifoliaceae.
Amur honeysuckle.

No. 8699. A bush honeysuckle, native to northeastern China, becoming about 10 feet high, with widely spreading branches and dark-green leaves which are downy on both surfaces. The pure white flowers, an inch in diameter, are produced on the upper side of the branchlets. The fruits are red.

For previous introduction see No. 57300.

72411. *PHILADELPHUS* sp. Hydrangeaceae.

No. 8717. A hardy shrub, probably an ornamental, allied to the mock orange.

72412. *PLECTRANTHUS* sp. Menthaceae.

No. 8724. Collected in Slinkins forest concession. A hardy herbaceous plant which may have attractive flowers.

Numbers 72413 to 72417 were collected in the forest concession of the Chinese Eastern Railway, in the vicinity of Shitoukhetsy.

72413. *ROSA ACICULARIS* Lindl. Rosaceae.

No. 8706. A low hardy shrub native to northern America, Europe, and Asia, with deep-pink flowers, followed by pear-shaped fruits.

For previous introduction see No. 54165.

72398 to 72423—Continued.

72414. *RUBIA CORDIFOLIA* L. Rubiaceae.
Madder.

No. 8721. A hardy herbaceous perennial 9 inches high with white flowers which appear in July. Native to Siberia.

For previous introduction see No. 49652.

72415. *SCHIZANDRA CHINENSIS* (Turcz.) Baill. Magnoliaceae.

No. 8726. A very handsome vine with masses of compact bunches of small, bright-red berries.

For previous introduction see No. 65287.

72416. *SORBARIA SORBIFOLIA* A. Br. Rosaceae.

No. 8702. A hardy ornamental shrub 3 to 6 feet high, with attractive panicles of creamy white flowers.

72417. *SPIRAEA SALICIFOLIA* L. Rosaceae.

No. 8725. A hardy upright shrub 5 feet high, with white or pink flowers. Native to northeastern Europe, Asia, and Alaska.

72418. *SPIRAEA* sp. Rosaceae. **Spirea.**

No. 8721-a. A hardy Manchurian shrub which may be of ornamental value.

Numbers 72419 to 72423 are seeds collected by I. V. Kosloff, Manchurian Research Society, Harbin, in the forest concession of the Chinese Eastern Railway, in the vicinity of Shitoukhetsy.

72419. *SPODIOPOGON SIBIRICUS* Trin. Poaceae.
Grass.

No. 8722-b. A perennial grass 3 feet high, native to eastern Asia.

For previous introduction see No. 66419.

72420. *SYRINGA AMURENSIS* Rupr. Oleaceae.
Manchurian lilac.

No. 8697. A hardy lilac, native to Manchuria, up to 12 feet high, with yellowish white flowers.

For previous introduction see No. 57344.

72421. *SYRINGA WOLFI* C. Schneid. Oleaceae.
Lilac.

No. 8718. A hardy Manchurian lilac.

72422. *TILIA AMURENSIS* Rupr. Tiliaceae.
Linden.

No. 8707. A hardy Manchurian linden which has a habit similar to that of the small-leaved linden, *Tilia cordata*, with ovate, papery, long-pointed leaves which are dark-green above and blue green below. It is distinguished from the small-leaved linden by its coarser dentations.

For previous introduction see No. 64243.

72423. *TILIA MANDSHURICA* Rupr. and Maxim. Tiliaceae.
Linden.

No. 8710. A very large-leaved linden of ornamental appearance.

For previous introduction see No. 57346.

72424 to 72439.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic garden. Received January 3, 1927.

72424. *ANNONA MONTANA* Macfad. Annonaceae.

West Indian tree, up to 15 meters high, with shining dark-green leaves and subglobose fruits, about the size of an orange, with yellowish pulp.

For previous introduction see No. 43265.

72424 to 72439—Continued.

72425. *ARTOCARPUS POMIFORMIS* Teysm. and Binn. Moraceae.

A tropical evergreen tree, with leaves up to 10 inches long. It is native to the East Indies and closely related to the breadfruit tree (*Artocarpus communis*).

72426. *BARYXYLUM DASYRACHIS* (Miquel) Pierre (*Peltophorum dasyrachis* Kurz.). Caesalpinaceae.

A tall unarmed East Indian tree, described by Hooker (Flora of British India, vol. 2, p. 257) as having rigid pinnate leaves up to a foot long and showy yellow flowers produced in terminal and axillary clusters 6 to 9 inches long.

For previous introduction see No. 63760.

72427. *BAUHINIA ROSEA* Miquel. Caesalpinaceae.

A tropical leguminous climber, with leaves 3 to 5 inches long and wide and slit halfway. The pink flowers are in terminal racemes. Native to tropical Asia.

72428. *BAUHINIA VIOLACEA* Hort. Caesalpinaceae.

Probably a tropical woody plant with violet flowers.

72429. *BRADBURYA PLUMIERI* (Turp.) Kuntze (*Centrosema plumieri* Turp.). Fabaceae.

An ornamental tropical vine with white and red flowers. It thrives in shady places in southern Brazil, where it is native.

For previous introduction see No. 48597.

72430. *BRADBURYA PUBESCENS* (Benth.) Kuntze (*Centrosema pubescens* Benth.). Fabaceae.

A creeping tropical vine used as a cover crop in the East Indies.

- 72431 to 72433. *CASSIA* spp. Caesalpinaceae.

72431. *CASSIA MOSCHATA* H. B. K.

A medium-sized tropical South American tree with leaves composed of 14 to 18 pairs of leaflets and yellow flowers in axillary racemes.

72432. *CASSIA QUINQUANGULATA* L. Rich.

A yellow-flowered tropical evergreen shrub 3 feet high.

72433. *CASSIA TIMORIENSIS* DC.

A rather low tree with slender downy branches, pale-green leaves up to 9 inches in length, bright-yellow flowers, and thin glossy, flexible pods sometimes 6 inches long. The tree is distributed throughout the Malay Archipelago and the Philippines.

For previous introduction see No. 55026.

72434. *CROTALARIA ANAGYROIDES* H. B. K. Fabaceae.

A rank-growing leguminous evergreen shrub with large clusters of yellow flowers.

For previous introduction see No. 66251.

72435. *CROTALARIA MYSORENSIS* Roth. Fabaceae.

A much-branched tropical leguminous annual, 2 feet high, with yellow flowers. Native to tropical Asia.

72436. *ERYTHRINA FUSCA* Lour. Fabaceae.

A tropical shrub 8 feet high, with prickly bark, narrow leaflets, and brown-red flowers in terminal racemes.

72424 to 72439—Continued.

72437. *MONODORA TENUIFOLIA* Benth. Annonaceae.

A small ornamental deciduous tropical Asiatic tree, with dull-yellow orchidlike flowers which appear when the tree is leafless.

72438. *PARKIA TIMORIANA* (DC.) Merr. (*P. roxburghii* G. Don.). Mimosaceae. Cupang.

A huge and remarkably handsome, quick-growing tree, attaining a height of 120 feet or more, with a clear smooth trunk and beautiful fine-feathery pinnate leaves. Native to the Malay Peninsula, Burma, etc. It has been introduced into and become well established in Ceylon, thriving in the moist low country up to 2,000 feet. The long pods, which grow in clusters, contain a quantity of white powdery farinaceous substance. The tree is easily propagated by seed.

For previous introduction see No. 61064.

72439. *TOLUIFERA BALSAMUM* L. (*Myrozyllon toluiferum* H. B. K.). Fabaceae.

A small handsome tree, native to northern South America, with odd-pinnate leaves and cream-colored flowers in axillary or terminal clusters.

For previous introduction see No. 66244.

72440. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

From Valencia, Spain. Seeds presented by Donald M. Liddell, Baltimore, Md. Received February 4, 1927.

The rind of this variety resembles a watermelon in appearance, and the pulp is like the honeydew. I believe it will stand shipping a little better than the honeydew melon, as the rind is heavier. (Liddell.)

72441. *CAJANUS INDICUS* Spreng. Fabaceae. Pigeon pea.

From Port of Spain, Trinidad, British West Indies. Seeds presented by W. G. Freeman, Director of Agriculture. Received February 4, 1927.

Arhar. A local small-seeded variety.

- 72442 to 72449. *VITIS VINIFERA* L. Vitaceae. European grape.

From Leningrad, Russia. Cuttings presented by A. Kol, chief, bureau of introduction, Institute of Applied Botany, through J. W. Pincus, Amtorg Trading Corporation, New York, N. Y. Received February 11, 1927.

Varieties developed in Turkestan.

72442. No. 35332. *Nimrang*.

72443. No. 35333. *Charas*.

72444. No. 35334. *Khasseyne*.

72445. No. 35335. *Chiliaki Krasnaya*.

72446. No. 35336. *Tanfi Rose*.

72447. No. 35337. *Sabza*.

72448. No. 35338. *Khusseyne*.

72449. No. 35339. *Katta Kurgan*.

72450. *CITRUS SINENSIS* (L.) Osbeck. Rutaceae. Sweet orange.

From Telde, Grand Canary, Canary Islands. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 11, 1927.

No. 977. December 29, 1926. These seeds were found in an especially fine fruit, 4 inches in diameter, which came from the same tree as the scions under No. 939 [No. 71131].

72451. CISSUS QUADRANGULA L. (*Vitis quadrangularis* Wall.). Vitaceae.

From Georgetown, McCarthy Island, Gambia, West Africa. Cuttings obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 11, 1927.

No. 981. January 8, 1927. A vigorous drought-resistant climber, forming great masses of green stems which would be excellent for use on stone walls. (Fairchild.)

For previous introduction see No. 66653.

72452. ELAEOCARPUS ANGUSTIFOLIUS Blume. Elaeocarpaceae.

From Dominica, British West Indies. Seeds presented by C. N. Field, Boston, Mass. Received February 9, 1927.

From the Dominica Botanic Gardens.

A tall, handsome tree with a lofty crown, from the primeval evergreen forests of Java where it is found from sea level to an altitude of about 4,000 feet. The narrow, partly evergreen leaves become brilliant orange red before they drop, and the clusters of greenish, silky fringed flowers appear in December. In the late summer the tree bears beautiful blue fruits the size of marbles; the fleshy portion is thin but pleasant flavored and is eaten by the natives. The knobby, grooved stones are exported in large quantities for rosaries.

For previous introduction see No. 54890.

72453 to 72570.

From northeastern Burma. Seeds collected by Capt. F. Kingdon Ward and presented by Maj. Lionel de Rothschild, London, England. Received January, 1927.

72453. ABIES sp. Pinaceae. Fir.

No. 7634. A medium-sized tree with small cones, growing at altitudes between 12,000 and 13,000 feet, on the flanks of a valley.

72454. ACER sp. Aceraceae. Maple.

No. 7265. A bushy shrub or small tree with entire leaves and scarlet fruits in pendent festoons 6 inches long. It grows on exposed rocky ridges at an altitude of 7,000 feet (where it is dwarfed) or in the lowest alpine meadows at an altitude of about 9,000 feet. It resembles *Acer henryi*, but has simple leaves.

72455. ANEMONE sp. Ranunculaceae.

No. 6931. A large woolly alpine species with several flowering stems bearing heads of white or purplish flowers.

72456. ANEMONE sp. Ranunculaceae.

No. 6956. *Golden anemone*. This species resembles No. 6931 [No. 72455], but the flowers are golden yellow, and the plant is confined to limestone situations.

72457. ANEMONE sp. Ranunculaceae.

No. 6956 (?).

72458. ARISTOLOCHIA sp. Aristolochiaceae.

No. 6810. A species with large leaves and dull-colored flowers having an unpleasant odor. It is found in the upper rain forest at altitudes between 8,000 and 9,000 feet, and is probably quite hardy. It is an interesting freak plant, but is not recommended for general culture.

72459. BERBERIS sp. Berberidaceae. Barberry.

No. 6787. A many-branched shrub forming rather spreading clumps, with stems 2 to 3 feet high. The large hollylike leathery leaves are dark-green above, the pale veins showing as inlaid work, and the under surface is brilliant silver. The bunches of pear-shaped, blue-violet

72453 to 72570—Continued.

berries are rather inconspicuous. This shrub is found in rhododendron thickets or in the open on limestone ridges at altitudes between 9,000 and 10,000 feet.

72460. BETULA sp. Betulaceae. Birch.

No. 7637. A fine red-barked tree, ascending to the limit of deciduous trees, where it grows with Abies and Rhododendron.

72461. CLEMATIS sp. Ranunculaceae.

No. 7615. A clematis growing in thickets on a limestone ridge.

72462. CODONOPSIS sp. Campanulaceae.

No. 7531. This alpine form is semierect, but in its meadow form it is semitwining. It grows on open meadow slopes up to 14,000 feet altitude. The tubular, fragrant flowers are yellow, speckled with purple.

72463. COTONEASTER sp. Malaceae.

No. 6788. A red-berried shrub 3 to 4 feet high, with flattened branches spreading out fanwise, but in an angular way. It grows on open gneiss or limestone ridges, and should be given plenty of room on top of rock gardens.

72464. ENKIANTHUS sp. Ericaceae.

No. 6789. A shrub 6 to 10 feet high, growing in dense rhododendron thickets, on the sheltered flank of limestone ridges. The leaves are scarlet in the autumn, and the cherry-red globular, solitary flowers are produced on long stalks.

72465. GENTIANA sp. Gentianaceae.

No. 7592. A mat plant weaving itself into the alpine turf at altitudes between 14,000 and 15,000 feet. The flowers are Prussian blue, fading with age.

72466. HYPERICUM sp. Hypericaceae.

No. 7224. A dwarf plant forming dense clumps a yard through on steep gravel scree facing south and confined to igneous rock. The flowers are golden yellow and an inch in diameter.

72467. ILEX sp. Aquifoliaceae. Holly.

No. 6925. A dwarf prostrate or ascending undershrub, forming tightly compressed carpets and cushions on granite cliffs, and among boulders and rocks which are covered with dwarf rhododendrons. The shoots are 2 to 3 inches high and covered with an abundance of bright-scarlet berries, making the species very attractive.

72468. IRIS sp. Iridaceae.

No. 7063. A species 6 to 8 inches high, found in bogs and on meadow slopes. The flowers are bright violet with a network of old gold and white on the falls.

72469. LILUM sp. Liliaceae. Lily.

No. 7143. A species 1 to 3 feet high, found on dry pine and bracken-clad slopes or higher up the valley among boulders and shrubs, in the open. The flowers are pink, speckled with purple, the pink ground turning darker with age.

72470. LINDENBERGIA sp. Scrophulariaceae.

No. 7165. A cool house plant 6 inches high, found among granite rocks and spear-grass, on dry pine-clad slopes. The flowers are brilliant yellow.

72471 to 72474. LONICERA spp. Caprifoliaceae.**72471. LONICERA sp.**

No. 6946. An undershrub 2 to 3 feet high, with outspread branches, found in thickets or on alpine slopes. The pendent flowers are yellow with papery bracts, and the berries are rather large and blue.

72453 to 72570—Continued.

72472. *LONICERA* sp.

No. 7113. A bushy shrub 6 to 8 feet high, found in mixed forests; it is allied to *Lonicera webbiana*. The flowers are maroon and the fruits are like small cherries, dangling on long stalks.

72473. *LONICERA* sp.

No. 7510. A small-leaved prostrate plant forming mats on steep earth and gravel slopes, facing south, or draping gneiss rocks with a curtain of foliage. The fairly large, glaucous berries are Prussian blue, and the flowers are said to be pink.

72474. *LONICERA* sp.

No. 7529. A small bushy shrub apparently confined to steep gravelly slopes below the limestone cliffs, on the more sheltered side of the valley. The berries are rather large, bright reddish orange, peeping from papery bracts, and the flowers are said to be yellow.

72475 to 72479. *MECONOPSIS* spp. Papaveraceae.72475. *MECONOPSIS* sp.

No. 6862. A plant 3 feet high, with sky-blue flowers, found in open meadows on stony slopes. It is like *Meconopsis baileyi*, but is a plant of the open hillside.

72476. *MECONOPSIS* sp.

No. 6974. A plant 6 to 8 inches high, resembling a red-flowered *Meconopsis impedita*, found on earth banks, cliffs, screes, limestone, or igneous rock in full sunshine. It is a splendid species and should be grown high up on rock gardens. The flowers are wine-colored or almost scarlet with the sunlight shining through them.

72477. *MECONOPSIS* sp.

No. 7098 or 7099.

72478. *MECONOPSIS* sp.

No. 7200. A plant 1 to 3 feet high, bearing a dozen blooms. It is found in open rocky situations, preferring limestone. The flowers are dark blue with yellow anthers.

72479. *MECONOPSIS* sp.

No. 7207. A biennial plant found in open situations on steep meadow slopes or among bushes or boulders. The leaves and stem are covered with silken golden hairs, as are those of *Meconopsis wallichii*. The flowers are bluish violet with orange anthers and are borne in an immense simple raceme 4 to 6 feet high. This plant recalls *M. robusta* except that the flowers are violet instead of yellow.

72480 to 72483. *NOMOCHARIS* spp. Liliaceae.72480. *NOMOCHARIS* sp.

No. 6876.

72481. *NOMOCHARIS* sp.

No. 7006. A plant about a foot high, with wine-red nodding flowers, found on open meadow slopes with *Nomocharis pardanthina*, but much rarer. The bulb is deep, about 6 inches below the surface, in a very tenacious gravelly clay, derived from the disintegration of feldspathic rocks, at the foot of which it grows.

72482. *NOMOCHARIS* sp.

No. 7030. A dwarf form of No. 7006 [No. 72481]. This plant, 3 to 4 inches high, grows on sheltered earth slopes and granitic sandy or gravelly soil in precipitous gullies.

72483. *NOMOCHARIS* sp.

No. 7049.

72453 to 72570—Continued.

72484 to 72497. *PRIMULA* spp. Primulaceae.

Primrose.

72484. *PRIMULA* sp.

No. 6820. *Tea rose* primrose. A plant 6 to 8 inches high, found on very steep stony rubble banks and gneiss cliffs, up to an altitude of 10,000 feet. The very large fragrant flowers in heads of four to eight are first carmine, later changing to pure pink.

72485. *PRIMULA* sp.

No. 6821. A plant 2 to 4 inches high when in flower and 6 to 10 inches when in fruit, growing in large clumps. The flowers are very large and bright violet with creamy bands down the interior.

72486. *PRIMULA* sp.

No. 6875. A plant 3 to 6 inches high, growing on sheltered banks in the alpine region or in boggy ground by streams. The small, golden-yellow flowers are in drooping heads.

72487. *PRIMULA* sp.

No. 6901. A common species of primula 6 to 9 inches high, growing chiefly on wet alpine turf slopes, in granitic grit and loam, at altitudes between 9,000 and 12,000 feet. The fragrant flowers, usually in one whorl, sometimes in two, are dark yellow in the center, gradually fading to pale yellow on the lobes.

72488. *PRIMULA* sp.

No. 6902. A species 8 to 12 inches high, growing in clumps along the banks of streams, on alpine turf slopes, and in moist loam. The fragrant flowers are pale sulphur, coated with snow-white meal.

72489. *PRIMULA* sp.

No. 6928. A species forming immense clumps on steep alpine grass slopes, in rich glutinous loam, at altitudes between 13,000 and 14,000 feet. The flowers are bright violet, though occasionally white, with a yellow eye. This plant rather recalls *Primula sonchifolia*, though it is not such a rare color; on the other hand this is a true alpine species while *P. sonchifolia* is not.

72490. *PRIMULA* sp.

No. 6975. A plant 4 to 6 inches high, found on sheltered loam and gravel banks among bushes. The fragrant flowers are blue powdered white.

72491. *PRIMULA* sp.

No. 6981. A primrose about a foot high, found in open meadows, on gravel slopes, earth banks, or by streams. The flowers are dark purple, almost black.

72492. *PRIMULA* sp.

No. 7002. *Claret cup*. A beautiful plant a foot high, found on steep alpine turf rocky slopes. The nodding flowers, one to three on the scape, are claret colored.

72493. *PRIMULA* sp.

No. 7004. A small, drab edition of No. 6821 [No. 72485], confined to a few sheltered grassy alpine slopes and gravel gullies.

72494. *PRIMULA* sp.

No. 7021. A handsome plant 3 to 4 inches high, growing on gneiss rocks and grassy ledges of gneiss escarpments. The large mauve or pinkish mauve flowers are in handsome heads. This species recalls the alpine forms of *Primula calliantha*, but is quite distinct.

72453 to 72570—Continued.

72495. PRIMULA sp.

No. 7054. A robust, bright-yellow-flowered plant 12 to 15 inches in diameter, growing on meadow-clad slopes.

72496. PRIMULA sp.

No. 7226. A species growing on open banks and alpine grass slopes. The fragrant flowers are rich violet, with an orange tube.

72497. PRIMULA sp.

No. 7228. A local plant 6 inches or less in height, growing on gneiss rocks and gravel slopes, facing south. It recalls *Primula cawdoriana*, but is paler in color and altogether more slight. The frail, pale-violet flowers are often reduced to one, but sometimes there are three or four.

72498. PYRUS sp. Malaceae.

Pear.

No. 8851. A spreading tree 30 feet high, growing in the uppermost rain forest, up to an altitude of 10,000 feet. The large glossy leaves make it an acquisition as a foliage tree. The fruits and inconspicuous flowers are white.

72499. RHEUM sp. Polygonaceae. Rhubarb.

No. 7101. A giant herb growing in stony wet ground, along the courses of alpine streams. The flowering stem, a stately column of maroon sorrel-like flowers, grows from the center of a mass of rhubarb-like leaves, reaching a height of 12 feet.

72500 to 72565. RHODODENDRON spp. Ericaceae.

Numbers 72500 to 72544 are from the Seinghku Valley.

72500. RHODODENDRON sp.

No. 6735. An epiphytic bushy undershrub, more or less confined to trees growing on exposed ridges, found at an altitude of 6,000 feet. The young foliage is crimson, and the flowers are bright orange with red anthers.

72501. RHODODENDRON sp.

No. 6735 or 6801.

72502. RHODODENDRON sp.

No. 6736. A stout bush 10 or 12 feet high, densely clothing an exposed cliff at an altitude of 9,000 feet.

72503. RHODODENDRON sp.

No. 6751 or 6794.

72504. RHODODENDRON sp.

No. 6752. A large shrub or small gnarled tree about 20 feet high, wedged in the tanglewood on precipitous cliffs or growing more freely in the upper mixed forest, at altitudes between 9,000 and 10,000 feet. The flowers, 6 to 10 in a truss, are flushed purplish rose, with a deep-crimson flash at the extreme base; the calyx and pedicel are a ruddy pink, and the whole inflorescence is bristly.

72505. RHODODENDRON sp.

No. 6753. A small erect tree 30 feet high, growing in the tanglewood at an altitude of 9,000 feet. The leaves are brilliantly silvered beneath with a metallic sheen, and the rounded truss contains many cream flowers with twin violet spots at the base.

72506. RHODODENDRON sp.

No. 6782. A magnificent tree, with a straight trunk, 60 to 80 feet high, found at altitudes between 8,000 and 9,000 feet.

72453 to 72570—Continued.

72507. RHODODENDRON sp.

No. 6792. A bush 10 to 15 feet high, growing in thin tanglewood on the limestone ridge or on the more sheltered flank, at altitudes between 9,000 and 10,000 feet. The flowers are sulphur colored with an aurora of crimson purple at the base. This may be a dwarf form of No. 6753 [No. 72505].

72508. RHODODENDRON sp.

No. 6793. An epiphytic leggy undershrub, found at altitudes between 9,000 and 10,000 feet. It grows on the scattered moss-bound *Tsuga* and juniper trees which rise above the tanglewood. The flowers are large, bright canary-yellow with red-brown anthers.

72509. RHODODENDRON sp.

No. 6794. A small compact bush 3 to 5 feet high, at an altitude of 10,000 feet, in the dense tanglewood thickets which cover the side of a ridge. The leaves are smoke-gray beneath and closely lepidote. The flowers, five in a truss, are flesh pink or pink and white, with a long crimson style; the calyx is large, leafy, and persistent.

72510. RHODODENDRON sp.

No. 6795. An undershrub 2 to 3 feet high, with leaves like a dwarf *thomsoni*, growing in low tanglewood on a ridge at an altitude of 10,000 feet.

72511. RHODODENDRON sp.

No. 6829. A bushy undershrub, lining the steep granite gullies or forming prostrate tufts on alpine slopes, at altitudes between 10,000 and 11,000 feet. The waxy flowers are bright blood red, with five coal-black pit glands at the base. Sometimes there is little or no pigment, and the flowers vary from carmine to flesh-pink tints, with blood-red glands. When in full bloom it is like sheets of red-hot lava.

72512. RHODODENDRON sp.

No. 6806. A small shrub 5 feet high, growing on steep grass slopes and in thickets, at altitudes between 9,000 and 10,000 feet. The pendent flowers are bright yellow.

72513. RHODODENDRON sp.

No. 6809. An epiphytic shrub growing at an altitude of 7,000 feet.

72514. RHODODENDRON sp.

No. 6818. A small tree or gnarled bushy shrub forming a dense undergrowth on steep faces clothed with *Abies* forest, or forming thickets by itself at altitudes between 10,000 and 11,000 feet. The leaves are dark green above and covered beneath with a cinnamon-colored wool. The flowers, in large trusses, are first pink, later turning cream, with a flash of crimson purple at the base.

72515. RHODODENDRON sp.

No. 6819. A small rather straggling undershrub liking deep shade, sometimes epiphytic on *Abies*, more usually on cliffs where water is always dripping. It is found at an altitude of 10,000 feet. The pale-yellow flowers are in trusses of two to three.

72516. RHODODENDRON sp.

No. 6831. A compact shrub 2 to 3 feet high, forming dense scrub thickets in the alpine region, often growing with No. 6829 [No. 72511], at altitudes between 10,000 and 12,000 feet. The leaves are at first woolly beneath, the thin wool eventually coming away and exposing the silvery surface. The flowers are in sheets of scarlet to carmine.

72453 to 72570—Continued.

72517. RHODODENDRON sp.

No. 6832. A creeping plant with scarlet flowers, forming fair-sized mats on rocks and steep talus slopes in very exposed situations, at an altitude of 11,000 feet.

72518. RHODODENDRON sp.

No. 6833. A bold tree 30 to 40 feet high, growing at altitudes between 10,000 and 11,000 feet in Abies forest, becoming more compact and smaller on open slopes. It is easily recognized by its irregularly angular branching and smooth shining tawny trunks, with peery bark hanging in tatters from the under surface when horizontal. The flowers are pink, with five purple pit glands at the base and beadlike strings of darker spots.

72519. RHODODENDRON sp.

No. 6834. A rather small thin sparingly branched shrub scattered on steep sheltered rocky faces in dense rhododendron scrub, at an altitude of 11,000 feet. The branches are virgate, the leaves smoke gray, and the bright rose-purple flowers are in nodding trusses.

72520. RHODODENDRON sp.

No. 6848. A small epiphytic undershrub growing at altitudes between 9,000 and 10,000 feet. The loose trusses contain three to five glistering pale-yellow flowers through which shines a delicate network of veins.

72521. RHODODENDRON sp.

No. 6854. A medium-sized bushy shrub growing in thickets on steep faces, on the sheltered side of the valley, at an altitude of 10,000 feet. The trunk is ascending and rarely erect. The flowers are in nodding trusses of about five, the light-orange corolla rimmed and streaked with brick red giving a general effect of tawny orange.

72522. RHODODENDRON sp.

No. 6855. A small tree with horizontal-ascending trunk, branching freely above and bearing large leaves at the ends of shoots which are shaggy with the persistent bud scales of several years. It grows at an altitude of 10,000 feet, only in the tanglewood of precipitous broken rock faces, where water drips continuously and everything is moss bound. The bright-red foliage bud scales are very striking when the leaves are breaking in June.

72523. RHODODENDRON sp.

No. 6856. A slim tree scattered here and there on steep forested slopes with No. 6818 [No. 72514], in half tanglewood and half Abies and rhododendron forests, at an altitude of 10,000 feet. The flowers, in large trusses, are pinkish purple splashed with dusky purple at the base.

72524. RHODODENDRON sp.

No. 6868. A stout tangled bush forming dense thickets on exposed alpine slopes from the upper limit of Abies forest upward, at altitudes between 11,000 and 12,000 feet. The leaves are rounded and glaucous, and the flowers are a delicate shade of sulphur, usually brick red in bud, ultimately retaining only a bright crimson-purple flash at the base.

72525. RHODODENDRON sp.

No. 6869. A shrub 3 to 5 feet high, with usually an ascending habit, growing in dense thickets on precipitous alpine slopes, at altitudes between 11,000 and 12,000 feet. The leaves are leathery and not glaucous, and the flowers, four to six in a truss, are pure white with five small crimson honey spots at the base. Sometimes the corolla is finely peppered with crimson or purple spots.

72453 to 72570—Continued.

72526. RHODODENDRON sp.

No. 6903. A small bushy undershrub, forming tufts on the steep scrub-clad slopes, at altitudes between 11,000 and 12,000 feet. The leaves are pale green above, and the flowers are bright purple with darker spots.

72527. RHODODENDRON sp.

No. 6923. *Cherry brandy*. A stout thick-set bush 8 to 10 feet high, growing at an altitude of 11,000 feet on the sheltered side of the valley, in thickets or on the edge of the Abies forest, but not inside where the Falconeri rhododendron is found. The buds are carmine, and the corolla is creamy white with a broad cherry-red band around the summit, including the lobes, and at the base there are five dusky purple pit glands. Sometimes the flowers are cherry red all through. There are six flowers in a truss.

72528. RHODODENDRON sp.

No. 6924. A small bushy undershrub 1 to 3 feet high, growing on steep sheltered slopes, in the general rhododendron scrub, at altitudes between 11,000 and 12,000 feet. The flowers are in loose corymbose trusses of six or eight, rather small, and plum purple with darker spots. They are very showy only when the sunlight shines through the flowers, when they glow a deep wine red.

72529. RHODODENDRON sp.

No. 6930. A bush 6 feet high growing in the dips of alpine turf slopes at altitudes between 12,000 and 13,000 feet. The flowers are bright sulphur yellow with a purple flash at the base. They are larger and darker than No. 6868 [No. 72524], and the leaves are not so rounded.

72530. RHODODENDRON sp.

No. 6953. A shrub 10 to 12 feet high, with an ascending trunk, forming thickets on steep sheltered slopes at an altitude of 12,000 feet. The flowers in large tight trusses are white or pink with a flash of crimson at the base.

72531. RHODODENDRON sp.

No. 6954. A small gnarled shrub with interlacing knobby branches, forming tanglements 2 or 3 feet deep on broken sheltered slopes at an altitude of 12,000 feet. The flowers are white with an extensive pattern of crimson spots on the upper half.

72532. RHODODENDRON sp.

No. 6955. *Scarlet letter*. A plant forming wide flat tanglements, not 2 feet deep, and paved with the rosetted leaves, on steep broken sheltered faces, at an altitude of 12,000 feet. The flowers, in large trusses, are of the most glowing scarlet.

72533. RHODODENDRON sp.

No. 6960. A twiggy undershrub, forming stout 1-foot brooms, growing socially or mixed with other species among gneiss boulders on broken slopes, or on steep alpine moorland slopes, at altitudes between 12,000 and 13,000 feet. The leaves are a beautiful bronze below, with silver scales above, and the fragrant flowers are violet with purple styles.

72534. RHODODENDRON sp.

No. 6961. *Pink baby*. A minute tufted undershrub, about 3 inches high, carrying solitary or paired flowers of a delicate shell pink, hoisted above crowded leaves on long crimson stalks, and when in fruit, these exceed 2 inches. This plant is found on steep rather bare gravelly chutes, limestone or gneiss, at an altitude of 12,000 feet.

72453 to 72570—Continued.

72535. RHODODENDRON sp.

No. 6962. A stout gnarled scrubby bush 2 to 3 feet high, growing among gneiss boulders on broken slopes, at an altitude of 12,000 feet. The buds are purplish pink, changing to milk white, flushed purple without and splashed dark reddish purple at the base within. The leaves are not so rounded as No. 6868 [No. 72524]. This plant is one of the many species or varieties of this type found in the Seingku Valley.

72536. RHODODENDRON sp.

No. 6967. A dwarf twiggy undershrub, not rising more than 6 or 8 inches above the general level of the carpet into which it is woven, on precipitous broken slopes, at an altitude of 13,000 feet. The leaf indumentum is orange, and the few rather large flowers are white with a touch of pink.

72537. RHODODENDRON sp.

No. 6984. *Limestone rose*. A beautiful plant found only on limestone rubble slopes and rocks where in sheltered situations it may form tufts 6 inches high, at an altitude of 13,000 feet. The bright rosy purple flowers appear about a month later than No. 6903 [No. 72526], from which this plant differs in many technical points, besides the obvious ones of habit and flower color.

72538. RHODODENDRON sp.

No. 6991. A scrub plant forming extensive colonies on the steep rubby flank of the sheltered slope, not extending far up the face, at an altitude of 13,000 feet. The leaf has a layer of chocolate-colored hairs on a closely woven silver warp and the flowers are blood red.

72539. RHODODENDRON sp.

No. 7012. An early-flowering specimen from a sheltered steep earth bank, at an altitude of 11,000 feet. The rich magenta-purple flowers are considerably larger than those of No. 6903 [No. 72526]. The back of the corolla is paved with broad bands of shining scales.

72540. RHODODENDRON sp.

No. 7038. A compact dwarfed shrub, not exceeding a foot in height, scattered among scrub on steep granite slabs and cliffs, fully exposed, at an altitude of 12,000 feet. The flowers are cream or salmon pink, without any of the bluish tinge seen in No. 6924 [No. 72528].

72541. RHODODENDRON sp.

No. 7046. A yellow-flowered species with foliage waxy beneath and pleasantly aromatic, growing at an altitude of 10,500 feet.

72542. RHODODENDRON sp.

No. 7048. A small bush 1 to 2 feet high, but smaller in exposed situations, found at an altitude of 12,000 feet. It grows on turf slopes, high alpine moorland, and among boulders on broken scrub-clad slopes. The leaves are covered above with silvery-gray scales and below with reddish brown scales. The flowers are very dark purple magenta. This is a late-flowering species characterized by its crisp grayish mat foliage and dusky flowers. It looks best in the sunshine.

72543. RHODODENDRON sp.

No. 7048. A small fastigiate undershrub, growing in colonies on open moorland slopes at an altitude of 14,000 feet. The leaves are very small and the flowers are purple.

72453 to 72570—Continued.

72544. RHODODENDRON sp.

No. 7062. A bushy undershrub 12 to 18 inches high, growing in the hollows among boulders on broken rock-strewn slopes at an altitude of 12,000 feet.

Numbers 72545 to 72561 are from the Dichu Valley.

72545. RHODODENDRON sp.

No. 7108. A plant forming a small tight bush on open slopes and a shrub 8 to 10 feet high in the forest. The abundant flowers are white or flushed pink with a large purplish crimson blotch over most of the upper half. The leaves are strongly aromatic.

72546. RHODODENDRON sp.

No. 7121. A loose shrub 6 feet high, forming thickets in fairly open places on the edge of the forest, at an altitude of 10,000 feet.

72547. RHODODENDRON sp.

No. 7122. A small gnarled tree 20 to 25 feet high, growing scattered in mixed forests at an altitude of 10,000 feet. The leaves are long and narrow.

72548. RHODODENDRON sp.

No. 7123. A large shrub 12 to 15 feet high, growing in mixed forest on bowlder slopes and in thickets of *Larix* and *rhododendron*, at an altitude of 10,000 feet. It sometimes forms a small gnarled tree 20 feet high on the granite cliffs, at altitudes between 11,000 and 12,000 feet.

72549. RHODODENDRON sp.

No. 7124. A spreading tangled shrub, or sometimes a small tree, scattered in mixed forest with No. 7122 [No. 72547], at altitudes between 9,000 and 10,000 feet.

72550. RHODODENDRON sp.

No. 7125. A tree 40 to 50 feet high, with a smooth polished reddish purple trunk and large shiny leaves, with bright-red petiole and midrib. It flowers as a comparatively small bush and is found at an altitude of 10,000 feet.

72551. RHODODENDRON sp.

No. 7136. A spreading bushy shrub, growing socially in thickets or on boulders in the river bed, preferring shade, at altitudes between 8,000 and 9,000 feet. The pure white flowers with orange-red anthers are fragrant and in trusses of four to six.

72552. RHODODENDRON sp.

No. 7137. An undershrub growing in massive tangles on large boulders with No. 7136 [No. 72551], at altitudes between 8,000 and 10,000 feet.

72553. RHODODENDRON sp.

No. 7138. A small wiry shrub growing in thickets on the edge of the mixed forest, but keeping in the open, at altitudes between 8,000 and 9,000 feet.

72554. RHODODENDRON sp.

No. 7139. A tall slender loosely knit shrub growing with No. 7136 [No. 72551], on a huge granite bowlder in the river bed, at altitudes between 8,000 and 9,000 feet.

72555. RHODODENDRON sp.

No. 7140. A medium-sized tree scattered in mixed forest among *rhododendron*, *Pinus*, *Quercus*, etc., at altitudes between 7,000 and 8,000 feet. The very small flowers are cherry red with darker spots.

72453 to 72570—Continued.

72556. RHODODENDRON sp.

No. 7171. A low-growing shrub with ascending branches forming sprawling tangles in rather swampy ground in well-shaded thickets, at altitudes between 8,000 and 9,000 feet.

72557. RHODODENDRON sp.

No. 7184. A small compact bushy shrub, sometimes 4 or 5 feet high, but more often less than 2 feet, scattered on the sunniest slope of steep granite screes, at an altitude of 11,000 feet. The quite tiny plants have been a mass of flowers which were borne very freely in trusses of four to seven. This species is quite distinct from No. 7123 [No. 72548], but may be seen growing within a few feet of it, the latter in the shelter of the *Abies* and *Larix* forests, the former in the open.

72558. RHODODENDRON sp.

No. 7188. A small compact bushy under-shrub 1 to 2 feet high in open places, but taller and lankier in the *Abies* forest, found at altitudes between 10,000 and 11,000 feet. The flowers are plum purple or inclining to crimson on the one hand and to violet on the other.

72559. RHODODENDRON sp.

No. 7189. A bush 4 to 6 feet high, forming dense thickets on steep rocky slopes, at altitudes between 10,000 and 11,000 feet. In the *Abies* forest it forms much of the underbrush, growing very rank.

72560. RHODODENDRON sp.

No. 7190. A shrub 5 feet high, growing at altitudes between 10,000 and 11,000 feet. It was growing on a steep boulder scree among thickets of Nos. 7184, 7189, and 7108 [Nos. 72557, 72559, and 72545]. It has the fruits of No. 7184 [No. 72557], but the foliage is more like No. 7189 [No. 72559]. This may be a hybrid.

72561. RHODODENDRON sp.

No. 7196. A large shrub, growing socially in the uppermost *Abies* forest. The flowers are snow white with a touch of purple at the base. This species has not the hairy petioles of No. 7189 [No. 72559].

Numbers 72562 to 72564 are from the Seinghku Valley.

72562. RHODODENDRON sp.

No. 7427. A slim solitary tree about 30 feet high, growing on the ridge in the midst of the rhododendron forest, at an altitude of 6,000 feet. The leaves, 12 inches long and 6 inches wide, hang down and the truss is many-flowered.

72563. RHODODENDRON sp.

No. 7455. A bushy shrub, growing on an alder tree in the river bed, at an altitude of 7,000 feet. It is usually epiphytic and invisible in the forest. The bright-yellow flowers are borne freely in trusses of four to six.

72564. RHODODENDRON sp.

No. 7625. A small tree scattered in the forest on a rocky precipitous ridge, with *Pinus longifolia*, rhododendron, etc., at altitudes between 7,000 and 8,000 feet.

72565. RHODODENDRON sp.

No. 7642. Dichu Valley. A small or medium-sized tree between 30 and 40 feet high, growing at an altitude of 8,000 feet. The young foliage is very long and narrow, and when matured it is dull dark green above, with conspicuous yellow midrib and primary veins, and the under surface is silver bronze. The fruits, about 16 in number, are in a long

72453 to 72570—Continued.

lax truss, covered with bright tawny orange hairs. This species is quite distinct from the large-leaved species No. 6782 [No. 72506], or from Nos. 6753 and 6792 [Nos. 72505 and 72507].

72566. ROSA sp.

No. 7501. A single bush found in the uppermost rhododendron forest. The pendent solitary glabrous fruits are bright reddish orange.

72567. VACCINIUM sp. Vacciniaceae.

No. 6845 (?).

72568. VACCINIUM sp. Vacciniaceae.

No. 6849 (?).

72569. VACCINIUM sp. Vacciniaceae.

No. 7602 (?).

72570. VERONICA sp. Scrophulariaceae.

No. 7008. A plant 3 to 4 inches high, growing on exposed earth banks. The nodding flowers are blue.

72571 to 72582.

From Leningrad, Russia. Seeds presented by A. Kol, chief, bureau of introduction, Institute of Applied Botany. Received February 9, 1927.

72571. AMELANCHIER sp. Malaceae.

No. 35341. Sovietsk, Viatka Government. A hardy Russian shrub with abundant small juicy fruits.

72572. BERBERIS sp. Berberidaceae. Barberry.

No. 35343. Sovietsk, Viatka Government. A hardy form grown for its berries.

72573. HIPPOPHAE RHAMNOIDES L. Elaeagnaceae. Sea buckthorn.

No. 35251. A deciduous spiny shrub, with small yellow flowers and acid orange berries which are used in Russia to make beverages and jellies.

For previous introduction see No. 36743.

72574 to 72578. PRUNUS spp. Amygdalaceae.

72574. PRUNUS BESSEYI Bailey. Bessey cherry.

No. 35350. Tulun Experiment Station, Irkutsk Government. A locally grown hardy strain with relatively sweet-flavored fruits.

For previous introduction see No. 49483.

72575 and 72576. PRUNUS SALICINA Lindl. Japanese plum.

Sovietsk, Viatka Government. Cultivated locally since 1916.

72575. No. 35344. Prolific yellow plum.

72576. No. 35345. Prolific red plum.

72577. PRUNUS SPINOSA L. Sloe.

No. 35359. Transcaucasia. A low-spreading thorny tree with small, deep-blue, edible fruits. A selection from wild trees.

For previous introduction see No. 43310.

72578. PRUNUS sp. Plum.

No. 35347. Voronezh Government. A large juicy sweet-flavored plum. The tree thrives without special care and bears annually.

72579 to 72581. RIBES spp. Grossulariaceae.

72579. RIBES AUREUM Pursh. Golden currant.

No. 35342. Sovietsk, Viatka Government. A strong grower and medium yielder. The fruits, about 240 to the pound, are of large size.

72571 to 72582—Continued.

72580. *RIBES DIACANTHA* Pall.

No. 35355. Trans-Baikal. A wild shrub by Siberian gooseberry, about 5 feet high, with scarlet fruits.

For previous introduction see No. 64794.

72581. *RIBES DIKUSCHA* Fisch.

No. 35349. Tulun Experiment Station, Irkutsk Government. A native Russian plant closely related to the common black currant; the fruits are used to make beverages.

For previous introduction see No. 42318.

72582. *RUBUS* sp. Rosaceae. Dewberry.

No. 35346. Sovietsk, Viatka Government. A plant cultivated locally under the name "Chinese dewberry." It is an annual bearer and productive, but the young shoots are often frosted in northern Russia.

72583 to 72589.

From Kharkof, Ukraine, Russia. Seeds presented by the All-Ukrainian Seed-Producing Association, through J. W. Pincus, Amtorg Trading Corporation, New York, N. Y. Received February, 1927.

72583. *ANETHUM GRAVEOLENS* L. Apiaceae. Dill.

A Russian garden variety.

For previous introduction see No. 64340.

72584. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

Piatigorsk (favorite). A variety grown in Russia.

72585 to 72587. *CUCUMIS SATIVUS* L. Cucurbitaceae. Cucumber.

Russian varieties.

72585. *Viaznikovski*.72586. *Nejinski*.72587. *Zelenka* (green).72588. *CUCURBITA PEPO* L. Cucurbitaceae. Pumpkin.

A Greek variety grown in Russia.

72589. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

Russian-grown seeds.

72590 to 72592.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic garden. Received February 1, 1927.

72590. *CARYOTA RUMPHIANA* Mart. Phoenixaceae. Palm.

An East Indian palm about the size of the coconut palm, with a smooth trunk and graceful bipinnate leaves composed of segments with truncate jagged tips. From the central pith of the bark is prepared a sago which is eaten in the East Indies in times of scarcity.

For previous introduction see No. 51710.

72591. *CASSIA LESCHENAUZIANA* DC.

A low diffuse perennial with slender branches and finely divided leaves.

72592. *CASSIA PATELLARIA* DC.

A low tropical herbaceous perennial with yellow flowers. Native to the East Indies.

For previous introduction see No. 46243.

72593. *CASSIA PODOCARPA* Guill. and Perr. Caesalpiniaceae.

From Sierra Leone, West Africa. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 12, 1927.

No. 1134. Near Freetown. January 24, 1927. A small shrubby tropical tree, 15 feet in height, bearing yellow flowers, produced in racemes.

72594 to 72609.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic garden. Received February 1, 1927.

72594. *CROTALARIA VALETonii* Backer. Fabaceae.

An East Indian plant described by C. A. Backer (Bulletin du Jardin Botanique, Buitenzorg, vol. 2, p. 324) as an erect densely branched herb, 1 to 4 feet high, with simple, hairy leaves and yellow flowers in terminal, 5-flowered to 12-flowered racemes.

For previous introduction see No. 65299.

72595. *CURCULIGO CAPITULATA* (Lour.) Kuntze (*C. recurvata* Ait.). Amaryllidaceae.

A slender bulbous plant about 2 feet high, with gracefully arching leaves and drooping yellow flowers; prefers shady places. Native to tropical Asia.

For previous introduction see No. 67691.

72596. *FICUS RIGIDA* Miquel. Moraceae.

An epiphytic woody plant, with narrow leathery leaves about 6 inches long. Native to the East Indies.

72597. *GNETUM INDICUM* (Lour.) Merr. (*G. funiculare* Blume.). Gnetaceae.

A native woody vine with brick-red fruits in bunches like grapes, each containing a nut which, when roasted, tastes like a chestnut. The nuts should not be eaten raw. (Note by P. J. Wester under No. 49779.)

72598. *LIVISTONA ALTISSIMA* Zoll. Phoenixaceae. Palm.

A graceful East Indian palm, up to 80 feet high, with fan-shaped leaves. The hardwood is valued by the natives for construction work.

For previous introduction see No. 46861.

72599. *LIVISTONA ROTUNDIFOLIA* (Lam.) Mart. Phoenixaceae. Palm.

An erect pinnate-leaved palm, native to tropical Asia, about the same size as the coconut palm. The hard, durable wood is used for general construction.

72600. *MARTINEZIA EROSA* Linden. Phoenixaceae. Palm.

A small ornamental feather-leaved palm from tropical America which is covered throughout with long, needlelike spines. A related species (*Martinezia caryotaefolia*) is grown to some extent in lower Florida.

For previous introduction see No. 61313.

72601. *ONCOSPERMA FILAMENTOSUM* Blume. Phoenixaceae. Palm.

The *nibung* palm of Java. A cluster palm of great beauty which rises to a height of 50 feet and waves its pinnate leaves in the slightest breeze. Like its relative, *Oncosperma fasciculatum*, it is a spiny palm and therefore not suited to small garden uses but to parks. The great clusters of this palm are wonderfully effective. (Note by Messrs. Fairchild and Dorsett under No. 66231)

72594 to 72609—Continued.

72602 to 72608. *PANDANUS* spp. Pandanaceae.72602. *PANDANUS AFFINIS* Kurz.

A tropical evergreen tree of possible value as an ornamental. Native to Ceylon.

72603. *PANDANUS FURCATUS* Roxb.

One of the most ornamental of the screw pines, which attains a height of about 5 meters, with dark green, linear spiny leaves 3 or more meters long, gracefully arching and somewhat spirally arranged. The whitish gray inflorescence emits a very agreeable odor. Native to the East Indies.

For previous introduction see No. 51728.

72604. *PANDANUS LABYRINTHICUS* Kurz.

An erect-spreading tropical shrub 15 feet high, with slender warty trunks. The linear leathery leaves are 4 to 6 feet long.

For previous introduction see No. 51729.

72605. *PANDANUS PARVUS* Ridley.

A low slender screw pine, about 3 feet high, with linear-oblong, thin leaves and very small spines. Native to the East Indies.

72606. *PANDANUS POLYCEPHALUS* Lam.

An East Indian screw pine with leaves 3 feet long. The natives of Java eat the young leaves and flower buds as a vegetable.

For previous introduction see No. 51730.

72607. *PANDANUS TECTORIUS* Parkins.

A tropical Asiatic "screw pine," 15 feet high, with light-green leaves 3 to 5 feet long. The staminate flowers yield a perfume.

For previous introduction see No. 57730.

72608. *PANDANUS VANDERMEESCHII* Balf. f.

A screw pine from the island of Mauritius, up to 20 feet high with lateral branches 8 feet long. The leaves are stiff, suberect, and 2 feet long.

For previous introduction see No. 51732.

72609. *VERSCHAFFELTIA SPLENDIDA* Wendl. Palm.

A tall spiny palm up to 80 feet in height with terminal, bifid leaves 5 to 8 feet long. Native to the Seychelles Islands.

For previous introduction see No. 39342.

72610 to 72613. *LILIUM* spp. Lilia-ceae. Lily.

From London, England. Seeds purchased from Watkins & Simpson. Received February 12, 1927.

72610. *LILIUM GIGANTEUM* Wall. Giant lily.

A Himalayan lily with stems 6 to 9 feet high and large fragrant white flowers, 12 to a raceme.

For previous introduction see No. 66469.

72611. *LILIUM MONADELPHUM* Bieb. Great Caucasian lily.

Variety *szovitzianum*. A stout-stemmed lily, 3 to 6 feet high, with 30 to 40 horizontal leaves about 3 inches long and 1 to 30 rich golden-yellow flowers.

72612. *LILIUM PHILIPPINENSE* Baker. Benguet lily

Variety *formosanum*. A rather tender white-flowered lily, native to tropical Asia, with stems 1 to 2 feet high and 30 to 40 horizontal leaves about 4 inches long.

72610 to 72613—Continued.

72613. *LILIUM* sp.

A lily, about 6 feet high, which is the result of crosses made by the late Mrs. Backhouse between various forms of *Lilium martagon* and *L. hansonii*. The star-shaped perianth is somewhat reflexed and appears in such colors as rosy pink with marbled interior, straw yellow with crimson spots, orange-yellow spotted purple, and pinkish buff with dark spots. It is one of the very finest hybrids yet raised. (Watkins & Simpson Catalogue.)

72614. *PRUNUS* sp. Amygdalaceae. Plum.

From near Haitzu, Chihli Province, China. Scions collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January, 1927.

For previous introduction and description see No. 72140.

72615. *FICUS CARICA* L. Moraceae. Fig.

From Beirut, Syria. Plants obtained from A. E. Day, Beirut, through W. T. Swingle, Bureau of Plant Industry. Received February 18, 1927.

Teen kazzi. A Syrian variety.

72616. *JUNIPERUS CEDRUS* Webb. Pinaceae.

From Orotava, Teneriffe, Canary Islands. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 9, 1927.

No. 932. December 23, 1926. A subtropical tree about 12 feet high, with crowded bluish green leaves one-fourth to one-half inch long. The branches have a beautiful drooping habit, making it an attractive tree for large gardens and parks. Native to the Canary Islands.

For previous introduction see No. 57080.

72617 to 72620. *CHAYOTA EDULIS* Jacq. (*Sechium edule* Swartz). Cucurbitaceae. Chayote.

From the city of Guatemala, Guatemala. Fruits presented by Wilson Popenoe, superintendent of agricultural experiments, United Fruit Co., Tela, Honduras. Received February 16, 1927.

Locally grown seeds.

72617. Large green fruits.

72618. Light green fruits.

72619. The smooth white fruits are small and tinged with green.

72620. Small prickly white fruits.

72621. *STURTIA GOSSYPIOIDES* R. Br. Malvaceae.

From Sydney, New South Wales. Seeds presented by G. P. Darnell-Smith, director, botanic gardens. Received February 15, 1927.

A large Australian shrub, with broadly oval stiff leaves up to 2 inches long and large purple flowers. It is closely related to cotton (*Gossypium* spp.).

72622. *CITRUS* sp. Rutaceae.

From Vancouver, British Columbia, Canada. Seeds presented by F. R. Stewart & Co., through L. Mayer & Co., Portland, Ore. Received February 24, 1927.

A marmalade orange originally from Japan.

72623. VIOLA MIRABILIS L. Violaceae.
Violet.

From Seattle, Wash. Plants presented by G. E. Kastengren, Sanborn May Co. Received February 24, 1927.

A hardy violet, native to northern Europe, which becomes about 3 inches high, producing pale-blue flowers in midsummer.

72624. CITRUS GRANDIS (L.) Osbeck
(C. decumana Murr.). Rutaceae.
Grapefruit.

From China. Bud wood collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February 23, 1927.

No. 980. From a tree growing in the China Inland Mission compound, Kanchow, Kiangsi Province. December 15, 1926.

Youtsz. A southern Chinese variety producing seedless fruits of good size and surpassing flavor.

72625. CHAYOTA EDULIS Jacq. (Sechium
edule Swartz). Cucurbitaceae.
Chayote.

From Cordoba, Vera Cruz, Mexico. Fruits presented by C. M. Holmes. Received February 21, 1927.

Locally grown seeds.

72626 to 72628. CAJANUS INDICUS
Spreng. Fabaceae. Pigeon pea.

From Santiago de las Vegas, Cuba. Seeds presented by Dr. Gonzalo M. Fortun, Director, Estación Experimental Agronómica. Received March 15, 1927.

Locally grown seeds.

72626. No. 1.

72628. No. 3.

72627. No. 2.

72629 and 72630. CAJANUS INDICUS
Spreng. Fabaceae. Pigeon pea.

From Samaru, Zaria, Northern Provinces, Nigeria. Seeds presented by the superintendent, Nigerian Department of Agriculture. Received February 11, 1927.

Locally grown seeds.

72629. No. 1.

72630. No. 2.

72631. CAJANUS INDICUS Spreng. Fa-
baceae. Pigeon pea.

From Gambia, British West Africa. Seeds presented by Archibald J. Brooks, Director, Department of Agriculture. Received February 11, 1927.

Locally grown seeds.

72632 to 72634.

From Brignoles, France. Seeds presented by René Salgues, Director, Brignoles Botanic Station. Received February 9, 1927.

72632. ERodium ciconium (Jusl.) Willd. Ger-
aniaceae. Heronbill.

An annual hairy plant, belonging to the Geranium family, with stout ascending branches, oval leaves, and purple flowers. Native to southern Europe and Asia Minor.

For previous introduction see No. 63984.

72633. PISTACIA CHINENSIS Bunge. Anacardiac-
eeae. Chinese pistache.

A fairly rapid-growing tree native to central China. The wood is durable and much used for furniture and agricultural implements. The young shoots are edible, and the seeds furnish an illuminating oil.

For previous introduction see No. 47362.

72632 to 72634—Continued.**72634. RHUS CORIARIA L. Anacardiaceae.**

A shrub up to 20 feet high, native to southern Europe, with greenish flowers and small crimson fruits. The leaves yield a commercial tannin.

For previous introduction see No. 58462.

72635. STIZOLOBIUM ATERRIMUM Piper
and Tracy. Fabaceae.
Mauritius bean.

From Sydney, New South Wales. Seeds obtained from Arthur Yates & Co., through A. J. Pieters, Bureau of Plant Industry. Received February 15, 1927.

A tropical leguminous annual used as a cover plant in sugar-cane districts.

72636. CAJANUS INDICUS Spreng. Fa-
baceae. Pigeon pea.

From Cienfuegos, Cuba. Seeds presented by Robert M. Grey, Harvard Botanic Station. Received February 16, 1927.

An especially productive type which is better than the native variety commonly cultivated here. (Grey.)

72637 to 72651.

From St. Jean le Blanc, Orleans, Loiret, France. Plants obtained from Edmond Versin. Received February 23, 1927.

72637 to 72641. CORYLUS spp. Betulaceae.**72637. CORYLUS CHINENSIS Franch. Hazel.**
Chinese hazel.

The Chinese hazel is closely allied to the tree hazel (*Corylus colurna*), differing in leaf and stem characters. It becomes a tall tree with heart-shaped leaves about 7 inches long. The nuts are borne in clusters of four to six. Native to western China.

For previous introduction see No. 63680.

72638. CORYLUS DAVIANA Hort.

A hardy shrub with nuts which may be edible.

72639 and 72640. CORYLUS MAXIMA Mill.

For previous introduction see No. 49196.

72639. A large shrub or small tree with rounded leaves and large oblong nuts. Native to southern Europe.

72640. Variety *atropurpurea*. A variety with deep purplish foliage.

72641. CORYLUS SIEBOLDIANA MANDSHURICA
(Maxim.) C. Schneid.

A Manchurian shrub, up to 15 feet high, with oblong or elliptic leaves and clusters of small edible nuts.

For previous introduction see No. 65520.

72642. LABURNUM ANAGYROIDES Medic. Fa-
baceae. Golden chain.

Variety *involutum*. A variety of the commonly grown yellow-flowered shrub.

72643. LONICERA KOROLEVICH Stapf. Caprifol-
iaceae. Blue-leaf honeysuckle.

A hardy ornamental shrub, 12 feet in height, of graceful habit, with a profusion of pink flowers, succeeded by red fruits. Native of Turkestan.

72644. MICROGLOSSA ALBESCENS (DC.) Benth.
Asteraceae.

An erect, slender shrub with narrow, sharp-pointed leaves and heads of light-lilac flowers. Native to the temperate Himalayas.

For previous introduction see No. 47733.

72637 to 72651—Continued.

72645. *PAULOWNIA SPECIOSA* Hort. Scrophulariaceae.

An ornamental purple-flowered tree.

72646 to 72651. *RUBUS* spp. Rosaceae.

Raspberry.

72646. *RUBUS* sp.

Heytor.

72647. *RUBUS* sp.

Merveille de 4 Saisons.

72648. *RUBUS* sp.

Norwick Wonder.

72649. *RUBUS* sp.

Superlative perpetuelle.

72650. *RUBUS* sp.

Surprise d'automne.

72651. *RUBUS* sp.

Yellow superlative.

72652. *CHAYOTA EDULIS* Jacq. (*Sechium edule* Swartz). Cucurbitaceae.

Chayote.

From Santiago de las Vegas, Cuba. Fruits presented by Dr. Gonzalo M. Fortun, Director, Estación Experimental Agronómica. Received February 16, 1927.

Locally grown seeds.

72653 to 72661. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

From Yokohama, Japan. Plants obtained from the Yokohama Nursery Co. Received February 24, 1927.

A collection of selected oriental persimmon varieties, collected near Seoul, Chosen, in the vicinity of Peking, China, and near Pingting, Shansi, China.

72653. No. 1.

72658. No. 6.

72654. No. 2.

72659. No. 8.

72655. No. 3.

72660. No. 9.

72656. No. 4.

72661. No. 10.

72657. No. 5.

72662 and 72663. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

From Yokohama, Japan. Plants obtained from the Yokohama Nursery Co., through W. T. Swingle, Bureau of Plant Industry. Received February 25, 1927.

72662. *Fuyu* (Densuke's stock).

72663. *Fuyu* (Aoso stock).

72664 and 72665. *CASTANEA* spp. Fagaceae.

From Yokohama, Japan. Seeds obtained from the Yokohama Nursery Co., through G. F. Gravatt, Bureau of Plant Industry. Received February 16, 1927.

72664. *CASTANEA CRENATA* Sieb. and Zucc.

A Japanese shrub or small tree, up to 10 meters high, with crenate-serrate oblong-elliptic leaves 8 to 16 centimeters long and involucre containing usually two or three nuts about 3 centimeters across.

72665. *CASTANEA KORINENSIS* Hort.

A hardy chestnut native to Chosen.

72666. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki.

From Nanking, China. Seeds purchased from Prof. J. H. Reisner, College of Agriculture and Forestry, University of Nanking. Received February 24, 1927.

Chinese-grown seeds.

72667 to 72671.

From Vancouver, British Columbia, Canada. Seeds presented by Prof. John Davidson, department of botany, University of British Columbia. Received February 21, 1927.

72667. *BERBERIS AQUIFOLIUM* Pursh. Berberidaceae. Oregon hollygrape.

A spiny evergreen shrub about 4 feet high; the dark-green leaves become purplish in autumn. The bright-yellow flowers appear in the spring and are succeeded by racemes of bluish black fruits. Native to northwestern North America.

For previous introduction see No. 62701.

72668. *BERBERIS NERVOSA* Pursh. Berberidaceae. Longleaf hollygrape.

A dwarf shrubby barberry, by some authorities referred to Mahonia; it is native to western North America. The leafstalks are up to 4 inches long, and the pale-green spiny toothed narrow leaflets are 1 to 3 inches in length. The oblong berries are blue.

For previous introduction see No. 65233.

72669. *IRIS MISSOURIENSIS* Nutt. Iridaceae. Rocky Mountain iris.

A native American iris distributed in wet soil from South Dakota to Arizona. It is up to 3 feet high, with pale-green leaves. The limbs of the flower are bright lilac, with the outer segments yellow near the claw.

72670. *LIGUSTRUM* sp. Oleaceae. Privet.

An ornamental shrub with handsome foliage and small white flowers.

72671. *RHODODENDRON CALIFORNICUM* Hook. Ericaceae. Coast rhododendron.

An evergreen shrub, native to the Pacific coast of North America. The numerous rosy purple flowers, about 5 centimeters across, are spotted red-brown.

72672. *CAJANUS INDICUS* Spreng. Fabaceae. Pigeon pea.

From Peradeniya, Ceylon. Seeds presented by F. A. Stockdale, Director of Agriculture. Received February 21, 1927.

The usual type grown in Ceylon.

72673 and 72674. *CAJANUS INDICUS* Spreng. Fabaceae. Pigeon pea.

From St. Kitts-Nevis, British West Indies. Seeds presented by R. E. Kelsick, agricultural superintendent. Received February 23, 1927.

Locally grown varieties.

72673. No. 1.

72674. No. 2.

72675 and 72676. *CAJANUS INDICUS* Spreng. Fabaceae. Pigeon pea.

From Mayaguez, Porto Rico. Seeds presented by T. B. McClelland, horticulturist, Porto Rico Agricultural Experiment Station. Received February 23, 1927.

72675. No. 1. A local strain of the smallest seeded type.

72676. No. 2. Reported to be "todo el año," or everbearing.

72677. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Freetown, Sierra Leone, Africa. Seeds presented by M. T. Dawe, Commissioner of Lands and Forests. Received February 26, 1927.

Locally grown seeds.

72678. STIZOLOBIUM ATERRIMUM Piper and Tracy. Fabaceae.

Mauritius bean.

From Barreiros, Pernambuco, Brazil. Seeds presented by Dr. A. Menezes Sobrinho, Director, Barreiros Experiment Station. Received February 26, 1927.

A tropical leguminous annual used as a cover plant in sugar-cane districts.

72679 to 72689. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceae. Soy bean.

From Ranchi, Bihar and Orissa, India. Seeds presented by the deputy director of agriculture. Received February 26, 1927.

Locally grown varieties.

72679. *Assam* × *Bermelli*.

72680. *Bermelli*.

72681. No. 1. *Biloxi* × *Bermelli* No. 2.

72682. No. 2. *Biloxi* × *Bermelli* No. 9.

72683. *Black Early* × *Bermelli* No. 5. Type 1.

72684. *Black Early* × *Bermelli* No. 4.

72685. *Black Early* × *Bermelli* No. 5.

72686. *Black Early* × *Bermelli* No. 9. Type 2.

72687. *Black Mottled Java*.

72688. *Burma* No. 1.

72689. *Mixed Kanke Giant*.

72690. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Indore, India. Seeds presented by A. Horard, director, Institute of Plant Industry. Received February 26, 1927.

A small-seeded variety which is grown in Malwa, India.

72691. TRIFOLIUM SQUARROSUM L. Fabaceae. Clover.

From San Remo, Italy. Seeds presented by Dr. Mario Calvino. Received February 26, 1927.

An upright or ascending, robust annual, with branches up to 30 inches in length; native to the Mediterranean countries. The pink or white flower heads are oval when young, becoming more elongated later.

For previous introduction see No. 67170.

72692 and 72693. NICOTIANA spp. Solanaceae.

From Tabor, Czechoslovakia. Seeds presented by Dr. Adolf Kutin, director, botanic garden. Received February 26, 1927.

72692. *NICOTIANA CHINENSIS* Fisch.

An annual relative of tobacco (*Nicotiana tabacum*), which grows to a height of 6 feet, with pink flowers. Native to China.

For previous introduction see No. 42335.

72693. *NICOTIANA RUSTICA* L. **Aztec tobacco.**

Locally grown seeds.

72694. EREMOCITRUS GLAUCA (Lindl.) Swingle (Atalantia glauca Benth.). Rutaceae.

Australian desert kumquat.

From Dundas, New South Wales. Seeds presented by Herbert J. Rumsey. Received February 25, 1927.

A shrub or small tree about 14 feet high, native to the deserts of northeastern Australia. The small thick leathery leaves are gray-green, and the fruits are about half an inch in diameter. The acid juice of the fruit forms the basis of an agreeable beverage, and the peel has the sweetish flavor of the kumquat. It is the hardiest of all the evergreen citrus fruits and is of promise to plant breeders.

For previous introduction see No. 69875.

72695 to 72709.

From the Canary Islands, West Africa, and Spain. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February and March, 1927.

72695. *ANNONA CHERIMOLA* Mill. **Annonaceae. Cherimoya.**

Botanic Gardens, Orotava, Tenerife, Canary Islands. December 23, 1926. A large, fine-fruited variety.

72696. *CNESTIS FERRUGINEA* DC. **Connaraceae.**

No. 997. Near Konakry, French Guinea, West Africa. January 16, 1927. A very ornamental shrub, 8 to 12 feet high, with handsome glossy green leaves and soft plushlike scarlet fruits. These fruits appear during the Christmas season in West Africa, where they are used for decorative purposes.

72697. *CUCUMIS MELO* L. **Cucurbitaceae. Melon.**

From Gibraltar, Spain. A sweet winter melon obtained in the market.

72698 to 72701. *ELAEIS GUINEENSIS* Jacq. **Phoenicaceae. African oil palm.**

72698. No. 1106. From Konakry, French Guinea, West Africa. January 15, 1927. Seeds from a selected variety which is supposed to be rich in oil and particularly valuable.

72699. No. 1109. From Sierra Leone, West Africa. January 22, 1927. "Nigerian thin-shelled" variety which is a selection from the ordinary "Nigerian" made by the agricultural experiment station, Jala.

72700. No. 1110. From Sierra Leone, West Africa. January 22, 1927. A medium-shelled strain of the "Nigerian thin-shelled" variety made by the agricultural experiment station, Jala.

72701. No. 1111. From Sierra Leone, West Africa. A thick-shelled strain of the "Nigerian thin-shelled" African oil palm selected at the agricultural experiment station, Jala.

72702 to 72705. *SORGHUM VULGARE* Pers. **Poaceae. Sorghum.**

72702. No. 967. Bank of the Gambia River, Gambia, West Africa. January 10, 1927. There are seven months of drought and about 40 inches of rainfall in this region. The soil is a stiff clay containing some laterite.

72703. No. 968. Georgetown, McCarthy Island, Gambia, West Africa. January 10, 1927. *Kinto wollen*, the cultivated sorghum of the Gambia region.

72695 to 72709—Continued.

72704. No. 969. Georgetown, McCarthy Island, Gambia, West Africa. January 10, 1927. A sorghum with very dark seeds which is known as *Bassey ba kinto*. It is grown on clay soils and is very drought resistant.

72705. No. 970. Georgetown, McCarthy Island, Gambia, West Africa. January 10, 1927. A white-seeded sorghum known as *Bassey kayo*.

72706. *PANICUM* sp. Poaceae. Grass.

No. 954. Near Sankuli Kunda, Gambia, West Africa. January 9, 1927. A tall species growing on dried rice fields, forming a perfect stand. The clay soil in these fields has cracked open, showing its character.

72707. *RAPHIA* sp. Phoenicaceae. Palm.

No. 1108. Collected near the waterworks at Abuko, near Cape St. May, Gambia, West Africa. January 10, 1927. A stunning West African wine palm which grows on the banks of the Gambia River, forming immense clumps.

72708. *SESAMUM RADIATUM* Schum. Pedaliaceae.

No. 1105. Between Konakry and Fore Cariat, French Guinea, West Africa. January 16, 1927. An erect-growing, oil-producing species.

72709. *SPONDIAS MOMBIN* L. Anacardiaceae. Yellow mombin.

No. 966. Georgetown, McCarthy Island, Gambia, West Africa. January 10, 1927. A variety known as the "mombin plum," which is subjected to seven months' drought in this region.

For previous introduction see No. 54533.

72710 to 72718.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic garden. Received February 11, 1927.

72710. *ALBIZZIA LUCIDA* (Roxb.) Benth. Mimosaceae.

A handsome spreading leguminous tree with attractive feathery leaves; native to the East Indies.

For previous introduction see No. 69144.

72711. *ARTOCARPUS ELASTICA* Reinw. Moraceae.

A tall East Indian tree up to 40 meters in height. The young trees furnish a fiber, and the latex is a remarkable birdlime. (Note by David Fairchild under No. 67673.)

72712. *ARTOCARPUS RIGIDA* Blume. Moraceae.

A medium-sized tropical Asiatic tree, with small oval leaves and ovoid edible yellow fruits about 5 inches in diameter.

72713. *CURCULIGO LATIFOLIA* Ait. Amaryllidaceae.

An ornamental tropical stemless plant with large palmlike leaves and yellow flowers. Native to Java.

72714. *DAMMARA ALBA* Rumph. (*Agathis loranthifolia* Salisb.). Pinaceae.

White dammar pine.

A large tropical coniferous tree, native to the Malay Peninsula, which yields the dammar gum of commerce.

72715. *ELAEIS GUINEENSIS* Jacq. Phoenicaceae. African oil palm.

Java-grown seeds of the African oil palm.

For previous introduction see No. 54040.

72710 to 72718—Continued.

72716. *FICUS PARIETALIS* Blume. Moraceae.

A handsome tropical tree with shining green leaves and golden-yellow fruits. Native to Java.

For previous introduction see No. 67702.

72717. *PITHECOLOBIUM JUNGHUENIANUM* Benth. Mimosaceae.

A tropical ornamental leguminous tree, up to 20 meters high. Native to the mountainous regions of Java.

72718. *VIGNA LUTEA* (Swartz) A. Gray (*V. retusa* Walp.). Fabaceae.

A tropical climbing vine or perennial creeper, native to the Philippines, where it has been found useful as a cover crop. It has also made good green forage for cattle.

For previous introduction see No. 60253.

72719. *MEDICAGO SATIVA* L. Fabaceae. Alfalfa.

From Russia. Seeds obtained through J. W. Pincus, Amtorg Trading Corporation, New York, N. Y. Received March 5, 1927.

A Turkestan variety.

72720 to 72724. *CAJANUS INDICUS* Spreng. Fabaceae. Pigeon pea.

From Salisbury, Southern Rhodesia, Africa. Seeds presented by H. G. Mundy, chief agriculturist, Department of Agriculture. Received March 5, 1927.

Locally grown seeds.

72720. *Early Maturing Dwarf*.

72721. No. 1. 72723. No. 3.

72722. No. 2. 72724. No. 4.

72725 to 72729. *PRUNUS SERRULATA* Lindl. Amygdalaceae.

Oriental cherry.

From Narberth, Pa. Plants presented by A. E. Wohlert, Garden Nurseries. Received March 16, 1927. Notes from 1927 Catalogue of the Garden Nurseries.

72725. *Jeanne Wohlert*. A decidedly dwarf variety, less than 6 feet high, with semidouble, fragrant, light-pink flowers.

72726. *Paul Wohlert*. A rather dwarf variety, with deep-pink semidouble flowers which appear very early, just after those of *Prunus subhirtella pendula*.

72727. *Rosea*. A spreading tree, with globular double flowers, deep pink becoming rose colored with age, in pendulous clusters of three to five.

72728. *Rosea Holland*. Very similar to *Rosea* [No. 72727] except that the tree assumes a vaselike habit with age.

72729. *Ruth Wohlert*. A variety with double light-pink flowers.

72730. *ZINZIBER OFFICINALE* Roscoe. Zinziberaceae. Ginger.

From Bathurst, Gambia, West Africa. Roots collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 11, 1927.

No. 957. Obtained in the market at Bathurst. January 4, 1927. This variety was probably grown in the Gambia region or somewhere on the west coast of Africa.

72731 to 72780.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received February 25, 1927.

72731 to 72750. HORDEUM VULGARE PALLIDUM Seringe. Poaceae. Six-rowed barley.

Numbers 72731 to 72733 were obtained through D. McLorn, Postal Commissioner, Harbin.

72731. No. 8987. 72733. No. 8998.

72732. No. 8991.

Numbers 72734 to 72750 were obtained from the localities named, through the Manchurian Research Society, Harbin.

72734. No. 9002. From Inkow.

72735. No. 9005. From Pangshangsiang.

72736. No. 9009. From Hangtsidiang.

72737. No. 9020. From Lalingchiang.

72738. No. 9024. Ouchiangsiang.

72739. No. 9025. Inkowsiang.

72740. No. 9028. Region of (Lagernaya) Camp Valley, Bukhedou.

72741. No. 9029. From Gofiovohpoo, near Bodouneah.

72742. No. 9030. From Bahmiantung.

72743. No. 9031. From Sangdiatsi, near Sangsing.

72744. No. 9032. From Nahhuang, near Sangsing.

72745. No. 9033. From Neengoutah.

72746. No. 9034. From Tiabingho, Bingtsiang, in the region of Singdiang.

72747. No. 9036. From Bahmiantung.

72748. No. 9037. From Singmingsiang.

72749. No. 9038. From Neengoutah.

72750. No. 9040. From Shaellingchang, near Bodouneah.

72751 to 72755. ORYZA SATIVA L. Poaceae. Rice.

Obtained from the localities named, through the Manchurian Research Society, Harbin.

72751. No. 9011. From Neengoutah.

72752. No. 9018. From Shingiangsiang.

72753. No. 9022. From Hingkingsiang.

72754. No. 9023. From Tahlingsiang.

72755. No. 9035. From Neengoutah.

72756. SECALE CEREALE L. Poaceae. Rye.

No. 9043. Obtained from the region of (Lagernaya) Camp Valley, Bukhedou, through the Manchurian Research Society, Harbin. This variety is planted in the spring and is the main grain cultivated in northern Russia.

72757. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

No. 8992. Obtained through D. McLorn, Postal Commissioner, Harbin.

72758 to 72780. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

Numbers 72758 to 72760 were obtained from the localities named, through D. McLorn, Postal Commissioner, Harbin.

72758. No. 8989. From Neugtaohotzii.

72731 to 72780—Continued.

72759. No. 8993. From Yunglochen.

72760. No. 8996. From Tuichingshan.

Numbers 72761 to 72780 were obtained from the following localities through the Manchurian Research Society, Harbin.

72761. No. 8999. From Bingtsiang, in the region of Singdiang.

72762. No. 9000. From Dahsilakhe, near Bodouneah.

72763. No. 9001. From Neengoutah.

72764. No. 9003. From Teebaihao. Bingtsiang, in the region of Singdiang.

72765. No. 9004. From Sheeiangsiang.

72766. No. 9007. From Dahgoutsaitsah, near Bodouneah.

72767. No. 9008. From Nahhuang, near Sangsing.

72768. No. 9010. From Miaotsiavohpoo, near Bodouneah.

72769. No. 9012. From Singmingdiang.

72770. No. 9013. From Neengoutah.

72771. No. 9014. From the region of Etapnaia Valley, Bukhedou.

72772. No. 9016. From Pahmiantung.

72773. No. 9017. From Sadiatsi, near Sangsing.

72774. No. 9019. From Liayangsiang.

72775. No. 9021. From Bahmiantung.

72776. No. 9026. From Dahvah, near Bodouneah.

72777. No. 9027. From Hangtsidiang.

72778. No. 9039. From Lahlingsang.

72779. No. 9041. From Siaofangshier, near Bodouneah.

72780. No. 9042. From Ouchiangsiang.

72781 to 72818.

From Kew, England. Seeds presented by Dr. A. W. Hill, Director, Royal Botanic Gardens. Received February 16, 1927.

72781. ACANTHOPANAX SESSILIFLORUM (Rupr. and Maxim.) Seem. Araliaceae.

A vigorous deciduous shrub which forms a large spreading bush 10 feet high, with three-lobed or five-lobed, irregularly toothed leaves. The flowers, brownish purple with yellow protruding stamens, are packed in a spherical, almost stalkless cluster about an inch in diameter, and appear in July. The inky black berries are in round clusters about an inch thick. This is one of the hardiest shrubs introduced from northern China, where it is native.

For previous introduction see No. 65908.

72782. ALNUS HIRSUTA Turcz. Betulaceae. Alder.

A rather handsome, medium-sized tree native to Japan and Manchuria, with rounded, elliptic, slightly lobed leaves, hairy beneath.

For previous introduction see No. 65912.

72783. ARTEMISIA LACTIFLORA Wall. Asteraceae.

An attractive herbaceous perennial, 2 feet high, with fragrant foliage and white flowers. Native to the Himalayas.

72781 to 72818—Continued.

72784. *ASTER YUNNANENSIS* Franch. Asteraceae.

A herbaceous perennial aster from south-eastern China, having unusually large brilliant lilac-blue flowers with a yellow disk.

For previous introduction see No. 67000.

72785. *BUDDLEIA FALLOWIANA* Balf. f., and W. W. Smith. Loganiaceae.

A shrubby plant with white woolly foliage and white flowers.

For previous introduction see No. 66280.

72786. *BUDDLEIA STENOSTACHYA* Rehd. and Wils. Loganiaceae. Butterfly bush.

A western Chinese shrub with narrowly oblong leaves 2 to 6 inches long and slender terminal panicles of fragrant lavender flowers which have orange eyes.

For previous introduction see No. 43829.

72787. *CARMICHAELIA ARBOREA* (Forst. f.) Druce (*C. australis* R. Br.). Fabaceae.

An ornamental evergreen shrub, 2 feet high, with light-blue flowers.

72788. *CASSINIA FULVIDA* Hook. f. Asteraceae.

An ornamental heathlike shrub which is covered with a yellowish down and produces white flowers. It is native to New Zealand.

72789. *CASSINIA VAUVILLIERSII* (Homb. and Jacq.) Hook. f. Asteraceae.

An erect compact shrub, 6 to 10 feet high, with small narrow leathery leaves half an inch long and dense terminal corymbs of white flowers. Native to New Zealand.

72790 to 72792. *CISTUS* spp. Cistaceae. Rockrose.

72790. *CISTUS CORBARIENSIS* Pourr.

A white-flowered shrub 2 feet high, native to Spain.

72791. *CISTUS FLORENTINUS* Lam.

A dwarf shrub with very narrow leaves and white flowers, which is a hybrid between *Cistus monspeliensis* and *C. salicifolius*.

For previous introduction see No. 67636.

72792. *CISTUS VILLOSUS* L.

An erect hairy shrub, 3 to 4 feet high, with wrinkled gray-green leaves and one to three reddish purple flowers about 2 inches wide. Native to the Mediterranean region.

For previous introduction see No. 67350.

72793. *CLEMATIS CHRYSOCOMA SERICEA* (Franch.) C. Schneid. Ranunculaceae.

An ornamental Chinese vine about 20 feet high, with silky hairy rounded leaves and solitary or paired pinkish flowers 3 to 4 inches across.

For previous introduction see No. 63394.

72794 to 72796. *COTONEASTER* spp. Malaceae.

72794. *COTONEASTER HARROVIANA* Wilson.

An evergreen shrub with a loose spreading habit, about 6 feet in height, having shining dark-green bristle-tipped leaves, dense corymbs of white flowers, and red fruits.

For previous introduction see No. 58146.

72795. *COTONEASTER LINDLEYI* Steud.

A large shrub or small tree, with semi-deciduous dark-green leaves, corymbs of white flowers, and bluish black fruits. Native to the northwestern Himalayas.

For previous introduction see No. 58149.

72781 to 72818—Continued.

72796. *COTONEASTER MELANOCARPA LAXIFLORA* (Jacq.) C. Schneid.

A spreading shrub, about 12 feet high, with oval dark-green leaves which are grayish white beneath, gracefully pendulous clusters of pinkish white flowers, and black globose fruits. This Siberian species is one of the most attractive of the black-fruited cotoneasters.

For previous introduction see No. 58150.

72797. *DAVIDIA INVOLUCRATA VILMORINIANA* (Dode) Hemsl. Cornaceae. Dove-tree.

A handsome hardy Chinese tree of pyramidal habit, differing from the typical form in leaf characters and perhaps less winter-hardy. The white floral bracts make a striking contrast with the bright-green foliage.

For previous introduction see No. 62030.

72798. *DEUTZIA LONGIFOLIA VEITCHII* (Veitch) Rehder. Hydrangeaceae. Longleaf deutzia.

This deutzia, from Yunnan, China, which bears its large flowers in dense many-flowered corymbs, is one of the handsomest of the genus, but has proved hardy only under protection at the Arnold Arboretum, Jamaica Plains, Mass.

For previous introduction see No. 65560.

72799. *DEUTZIA WILSONI* Duthie. Hydrangeaceae.

A very handsome Chinese shrub with reddish brown bark, soon peeling, and scabrous oblanceolate leaves 3 to 5 inches long. The white flowers, nearly 1 inch across, are in open corymbs, and the petal margins are wavy and hooded.

For previous introduction see No. 66289.

72800 to 72804. *ERODIUM* spp. Geraniaceae. Heronbill.

72800. *ERODIUM AMANUM* Boiss. and Kotschy.

A somewhat caespitose herbaceous perennial, native to Syria.

72801. *ERODIUM GLANDULOSUM* (Cav.) Willd. (*E. macradenum* L'Herit.).

A stemless herbaceous perennial, native to the Pyrenees Mountains, with long stout roots, hairy leaves 2 to 6 inches long, and light-purple flowers three-fourths of an inch across.

For previous introduction see No. 66563.

72802. *ERODIUM MANESCAVI* Coss. Pyrenees heronbill.

A herbaceous perennial plant, belonging to the Geranium family, about a foot and a half high, with narrow leaves 6 inches or more in length and rosy purple flowers about 2 inches across. It grows wild in the Pyrenees Mountains.

For previous introduction see No. 66564.

72803. *ERODIUM PETRAEUM* (Gouan) Willd.

A herbaceous perennial, native to Asia Minor, with a vertical rhizome, numerous crowded basal leaves, and violet or pink flowers.

For previous introduction see No. 66565.

72804. *ERODIUM SUPRADENUM* Hort.

A herbaceous plant of possible use as forage.

72805 to 72807. *HEDYSARUM* spp. Fabaceae.

72805. *HEDYSARUM CORONARIUM* L.

A perennial or biennial European plant, 2 to 4 feet high, with odd-pinnate foliage and axillary racemes of deep-red, fragrant flowers.

For previous introduction see No. 64930.

72781 to 72818—Continued.

72806. *HEDYSARUM ESCULENTUM* Ledeb.

A hardy herbaceous yellow-flowered perennial, native to Siberia.

For previous introduction see No. 42191.

72807. *HEDYSARUM FLAVESCENS* Regel and Schmalh.

A hardy bushy leguminous plant with yellow flowers. Native to Turkestan.

For previous introduction see No. 42192.

72808. *HUMEA ELEGANS* J. E. Smith. Asteraceae. Fountain humea.

A somewhat tender red-flowered biennial, about 6 feet high, native to New South Wales.

72809. *LONICERA CHAETOCARPA* Rehder. Caprifoliaceae. Honeysuckle.

A honeysuckle collected in Kansu, western China, by E. H. Wilson, which is described (Curtis's Botanical Magazine, pl. 8804) as a shrub of compact habit and about 5 feet in height. The oblong leaves are bright green and more or less hairy, and the flowers, an inch or more in length, open in early June and are a pleasing primrose yellow.

For previous introduction see No. 66297.

72810. *MALUS KANSUENSIS* (Batal.) C. Schneid. Malaceae.

A hardy ornamental wild apple, up to 8 meters high, with white flowers and red or yellow fruits. Native to northwestern China.

72811. *ONOBRYCHIS TOURNEFORTII* (Willd.) Desv. Fabaceae.

A hardy herbaceous perennial native to Asia Minor.

72812. *PERNETTYA MUCRONATA* (L. f.) Gaud. Ericaceae.

According to W. J. Bean (Trees and Shrubs Hardy in the British Isles, vol. 2, p. 127), this is one of the finest ornamental shrubs, native to South America, about the Straits of Magellan. It is one of the hardiest from that continent, and is rarely injured by frost in the neighborhood of London. The shrub is evergreen, 2 to 5 feet high, and spreads freely by suckers, forming ultimately a dense low thicket. The nodding white flowers, one-fourth of an inch long, are produced singly in the axils of the leaves at the ends of the shoots. The round berries, up to half an inch in diameter, vary in color from white to pink, lilac, crimson, purple, or almost black and remain on the branches throughout the winter and following spring. At Kew the berries are untouched by the birds.

For previous introduction see No. 62286.

72813. *PHOTINIA BEAUVERDIANA* C. Schneid. Malaceae.

A somewhat tender evergreen shrub with white flowers. Native to western China.

72814. *PYRACANTHA CRENULATA RODGERSIANA* A. B. Jacks. Malaceae.

A handsome evergreen spiny shrub with white flowers and orange-red fruits. Native to western China.

72815. *RODGERSEA PINNATA* Franch. Saxifragaceae.

A hardy herbaceous perennial, 2 to 4 feet high, with flowers varying in color from pink to deep red.

For previous introduction see No. 48655.

72781 to 72818—Continued.

72816. *ROSA DAVIDI* Crepin. Rosaceae.

David rose.

A pink-flowered, orange-fruited rose, up to 18 feet high, native to western Szechwan, China, at altitudes of 4,000 to 9,000 feet. It is the nearest Chinese relative of *Rosa macrophylla* of the western Himalayas.

For previous introduction see No. 61986.

72817. *STRANVAESIA DAVIDIANA UNDULATA* (Decaisne) Rehd. and Wils. Malaceae.

A low spreading evergreen shrub, or occasionally a small tree, native to western China. The narrow-oval, leathery leaves, 1 to 3 inches long, are glossy green, and the white flowers, about half an inch in diameter, appear in terminal clusters. Its greatest charm as an ornamental is the abundant crop of bright-red fruits.

For previous introduction see No. 66312.

72818. *TRIGONELLA POLYCEPATA* L. Fabaceae.

A prostrate or ascending annual, 1 or 2 feet high, with obovate leaflets and small umbellike clusters of yellow flowers. Native to southern Europe and northern Africa.

For previous introduction see No. 58717.

72819 to 72827.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, Regius Keeper, Royal Botanic Garden. Received February 12, 1927.

72819 to 72821. *ALNUS* spp. Betulaceae. Alder.72819. *ALNUS INCANA PENDULA* Callier.

Speckled alder.

A pendulous variety of the speckled alder. The typical form is native to the eastern United States, where it is a small tree with dark-green leaves which are rusty beneath.

72820. *ALNUS INCANA GLAUCA* (Michx.) Ait.

A variety with the leaves blue-green beneath.

72821. *ALNUS HIRSUTA* Turcz.

A hardy Japanese tree, up to 60 feet in height, with large handsome foliage.

72822. *BUDDLEIA STENOSTACHYA* Rehd. and Wils. Loganiaceae.

For previous introduction and description see No. 72786.

72823. *CISTUS VILLOSUS CORSICUS* (Lois.) Grosser. Cistaceae.

An erect ornamental hairy shrub, about 4 feet high, with small rounded-oval leaves and purplish pink flowers. Native to the island of Corsica.

72824. *COTONEASTER HARROVIANA* Wilson. Malaceae.

For previous introduction and description see No. 72794.

72825. *CRATAEGUS ORIENTALIS* Pall. Malaceae. Hawthorn.

A shrub or small tree, with dense corymbs of flowers and dark-red fruits. It is native to dry, stony places in Asia Minor and southeastern Europe and is said to withstand much heat and drought.

For previous introduction see No. 61331.

72826. *PERNETTYA MUCRONATA* (L. f.) Gaud. Ericaceae.

For previous introduction and description see No. 72812.

72827. *STRANVAESIA DAVIDIANA UNDULATA* (Decaisne) Rehd. and Wils. Malaceae.

For previous introduction and description see No. 72817.

72828 to 72865.

From Tabor, Czechoslovakia. Seeds presented by Dr. Adolf Kutin, director, botanic garden. Received February 26, 1927.

72828 to 72832. *AMARANTHUS* spp. *Amaranthaceae*.

These amaranths are of possible value as green vegetables.

72828 and 72829. *AMARANTHUS CAUDATUS* L. *Amaranth.*

A subtropical herbaceous plant.

For previous introduction see No. 56611.

72828. Variety *albiflorus*. A white-flowered form.

72829. Variety *ruber*. A red-flowered form.

72830. *AMARANTHUS DUSSII* Sprenger.

An annual herbaceous plant native to Europe.

72831. *AMARANTHUS RETROFLEXUS* L.

An erect annual with dull-green leaves. Native to tropical America.

72832. *AMARANTHUS SYLVESTRIS* Desf.

A herbaceous annual, native to Asia Minor.

72833. *BETA TRIGYNA* Waldst. and Kit. *Chenopodiaceae*.

A hardy herbaceous white-flowered perennial, about 3 feet in height, native to Hungary.

For previous introduction see No. 58887.

72834 to 72836. *BETA VULGARIS* L. *Chenopodiaceae*. Beet.

Varieties of the common beet from southern Europe.

72834. Variety *altissima*.

72835. Variety *maritima*.

72836. Variety *rubra*.

72837. *CYCLANTHERA EXPLODENS* Naud. *Cucurbitaceae*.

A tender tropical climber, native to Colombia, with cucumberlike fruits which are perhaps edible.

72838. *CYCLANTHERA PEDATA* (L.) Schrad. *Cucurbitaceae*.

A tropical vegetable from northern South America, with cucumberlike fruits which are stuffed with meat and baked.

For previous introduction see No. 51557.

72839. *LALLEMANTIA IBERICA* (Bieb.) Fisch. and Mey. *Menthaceae*.

A blue-flowered, herbaceous perennial native to semiarid regions in Asia Minor and Syria, whose seeds yield an oil said to be a high-grade drying oil.

For previous introduction see No. 65465.

72840. *LILUM BULBIFERUM* L. *Liliaceae*. Lily.

A southern European lily, 2 to 4 feet high, with bright-red flowers spotted with black.

72841. *ORNITHOGALUM TENUIFOLIUM* Guss. *Liliaceae*.

A hardy white-flowered bulbous plant about a foot high, native to southern Europe. It is closely related to the star of Bethlehem (*Ornithogalum umbellatum*).

72842. *PHASEOLUS COCCINEUS* L. *Fabaceae*. Scarlet Runner bean.

Locally grown seeds.

72828 to 72865—Continued.

72843 to 72852. *PHASEOLUS VULGARIS* L. *Fabaceae*. Common bean.

Locally grown seeds.

72843. *Cerasiferus*.

72844. *Ellipticus* variety *carneus*.

72845. Variety *communis*.

72846. Variety *compressus*.

72847. Variety *gonospermus*.

72848. Variety *nanus*.

72849. Variety *nigerrimus*.

72850. Variety *oblongus*.

72851. Variety *tuberosus*.

72852. *Ricciardianus*.

72853 to 72860. *PISUM SATIVUM* L. *Fabaceae*. Pea.

Locally grown seeds.

72853. *Arvense*.

72854. Variety *concentator*.

72855. Variety *hiberinum*.

72856. *Jomardi*.

72857. Variety *Michauxii*.

72858. *Quadratum*.

72859. Variety *thebaicum*.

72860. *Sativum*.

72861 to 72865. *POLEMONIUM* spp. *Polemoniaceae*.

72861. *POLEMONIUM CAERULEUM* L. Greek valerian.

A blue-flowered herbaceous perennial, 1 to 3 feet high, native to Europe.

For previous introduction see No. 66938.

72862. *POLEMONIUM FOLIOSISSIMUM* A. Gray.

A blue-flowered herbaceous perennial, native to New Mexico.

72863. *POLEMONIUM MEXICANUM* Cerv.

A herbaceous perennial up to 12 inches high, with blue flowers; native to New Mexico.

For previous introduction see No. 66939.

72864. *POLEMONIUM RICHARDSONII* R. Grah.

A hardy herbaceous perennial, 1 foot high, with blue flowers. Native to Europe.

72865. *POLEMONIUM SIBIRICUM* D. Don.

A hardy white-flowered herbaceous perennial, 2 feet high.

72866 to 72880.

From Les Barres, Nogent sur Vernisson, Loiret, France. Seeds presented by L. Pardé, Directeur, Arboretum des Barres et Fruticetum Vilmorinianaum. Received March 4, 1927.

72866 to 72868. *BERBERIS* spp. *Berberidaceae*. Barberry.

72866. *BERBERIS POIRETI* C. Schneid.

A hardy shrub, up to 3 meters high, with small oval-oblong bright-green leaves, bright-yellow flowers, and ovoid red berries. Native to northern China.

For previous introduction see No. 61906.

72866 to 72880—Continued.

72867. *BERBERIS SOULIEANA* C. Schneid.

An evergreen shrub, 3 to 6 feet high, with leathery, lanceolate, spiny-serrate leaves 2 to 4 inches long and brownish yellow flowers in clusters of 2 to 15. The black ellipsoid berries are about five-eighths of an inch long. Native to China.

For previous introduction see No. 58141.

72868. *BERBERIS VERRUCULOSA* Hemsl. and Wils.

This attractive Chinese barberry is found as an evergreen shrub in western Szechwan, where it becomes 3 or 4 feet high. The yellow flowers and ovoid purplish blue fruits are borne along the small, very spiny leaves.

For previous introduction see No. 58126.

72869. *CLEMATIS GLOBULOSA* Hort. Ranunculaceae.

A hybrid of *Clematis douglasii scottii* and *C. texensis* with deep-purple pitcher-shaped flowers. Both of the parents of this European hybrid are native to the western United States.

For previous introduction see No. 63351.

72870. *CLERODENDRUM TRICHOTOMUM FARGESII* (Dode) Rehder. Verbenaceae.

A rapid-growing Chinese shrub, with dark-green or purplish strongly veined, oval leaves and cymes of fragrant whitish flowers which are borne during the summer. The globular, peacock-blue fruits, about the size of peas, are set on the purple or crimson persistent calyx.

For previous introduction see No. 67638.

72871. *COTONEASTER LINDLEYI* Steud. Malaceae.

A large shrub or small tree, with semideciduous, dark-green leaves, corymbs of white flowers, and bluish black fruits. Native to the north-western Himalayas.

For previous introduction see No. 58149.

72872. *HAMAMELIS JAPONICA* Sieb. and Zucc. Hamamelidaceae. Japanese witch-hazel.

Variety *Zuccariniana*. A large hardy shrub, up to 30 feet high, with canary-yellow flowers. Native to Japan.

72873. *HAMAMELIS MOLLIS* Oliver. Hamamelidaceae. Chinese witch-hazel.

A large bush or small tree, sometimes 30 feet high, native to western China. The short-stemmed roundish toothed leaves are about 5 inches long, and the golden-yellow flowers are borne in nearly sessile heads.

For previous introduction see No. 49132.

72874 to 72877. *LIGUSTRUM* spp. Oleaceae. Privet.72874. *LIGUSTRUM ACUTISSIMUM* Koehne.

A much-branched shrub, 10 feet or less in height, with spreading and curving branches and very narrow sharp-pointed leaves about 2 inches long. The white flowers are borne in dense nodding panicles about an inch long. This privet is native to Japan and China.

For previous introduction see No. 65770.

72875. *LIGUSTRUM CILIATUM* Sieb.

A hardy Japanese shrub, up to 6 feet high, with black fruits.

72876. *LIGUSTRUM WALKERI* Decaisne.

An evergreen shrub with oval or lanceolate leaves and large panicles of white flowers. Native to southern India.

For previous introduction see No. 67041.

72866 to 72880—Continued.

72877. *LIGUSTRUM* sp.

A hardy shrub with white flowers and black fruits.

72878. *PYRACANTHA CRENULATA RODGERSIANA* A. B. Jacks. Malaceae.

Variety *flava*. An evergreen spiny shrub, perhaps tender, with orange fruits. Native to the Himalayas.

72879. *ROSA FOELIDA* Herrmann. Rosaceae.

A hardy shrub, up to 10 feet high, with slender stems and bright-yellow flowers. Native to western Asia.

72880. *STYRAX* sp. Styracaceae.

A handsome white-flowered shrub.

72881. *CAJANUS INDICUS* Spreng. Fabaceae. Pigeon pea.

From Central Baragua, Baragua, Camaguey, Cuba. Seeds presented by D. L. Van Dine, local director, Tropical Plant Research Foundation. Received March 8, 1927.

A variety growing at the Harvard Botanical Gardens, Soledad, Cienfuegos, which was introduced from the Dominican Republic by R. M. Grey, superintendent of the Harvard Gardens. (*Van Dine*.)

72882. *LONICERA PROSTRATA* Rehder. Caprifoliaceae. Honeysuckle.

From Stockholm, Sweden. Seeds presented by Dr. Robert E. Fries, director, botanic garden. Received March 30, 1927.

An ornamental prostrate shrub which forms dense mats and bears reddish flowers. Native to western China.

72883. *ELAEODENDRON QUADRANGULATUM* (Schrad.) Reiss. Celastraceae. False olive.

From Washington, D. C. Plants obtained from the National Botanic Garden. Received October 13, 1922. Numbered March, 1927.

An attractive tropical evergreen shrub or tree with glossy green leaves and small inconspicuous flowers. Native to Brazil.

72884. *ELAEODENDRON QUADRANGULATUM* (Schrad.) Reiss. Celastraceae. False olive.

From Palm Beach, Fla. Cuttings presented by J. B. Donnelly. Received October 2, 1922. Numbered March, 1927.

For previous introduction and description see No. 72883.

72885. *CASTANEA CRENATA* Sieb. and Zucc. Fagaceae. Japanese chestnut.

From Yokohama, Japan. Seeds purchased from the Yokohama Nursery Co. Received February 28, 1927.

A large shrub or small Japanese tree, up to 30 feet high, with edible nuts an inch or less in diameter.

72886. *CANARIUM ALBUM* (Lour.) DC. Balsameaceae.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received March 8, 1927.

No. 1005. Lohkongtung. November 13, 1926. *Chong laam paak laam*. A tropical tree which bears edible olivellike fruits; these are usually preserved in sugar or processed with salt.

72887 and 72888. FICUS spp. Moraceae. Fig.

From Solan Brewery, Punjab, India. Plants presented by H. E. J. Peake, Khaltoo Fruit Orchards. Received May 6, 1925. Numbered March, 1927.

Wild figs from India, of possible use as stocks.

72887. FICUS sp.

A form with entire leaves.

72888. FICUS CARICA L.

A form with deeply lobed leaves.

72889 to 72895. PRUNUS SERRULATA Lindl. Amygdalaceae.**Oriental cherry.**

Flowering cherries, growing at the Plant Introduction Garden, Chico, Calif., originally received from Highland Park, Rochester, N. Y. Numbered March, 1927.

72889. Asagi. Row 27, trees 12, 13, 14, old test orchard. Tree 15 to 20 feet high, spreading; young leaves brownish; buds pinkish; flowers semidouble, up to 1½ inches across, in drooping clusters of two or three, light yellowish green becoming light pink just before falling. Not as showy as some varieties, but an interesting addition to a general collection because of its greenish flowers.

72890. Fudanzakura. Rows 130 and 131, tree 4, old test orchard. Tree about 15 feet high, upright, vigorous; young leaves reddish green; buds pink; flowers single, pale pink or white, up to 1½ inches across, in clusters of two or three, and borne very freely.

72891. Hosokawa. Tree up to 25 feet high, spreading; young leaves with only a slight reddish tinge; flowers mostly single, white, fragrant, up to 1¼ inches in diameter, in twos or threes.

72892. Shiratamazakura. Row 27, trees 4 and 5, old test orchard. Tree rather small, erect, and rather open; young leaves reddish; buds pinkish; flowers single, white with a pink tinge, about 1½ inches across, in twos and threes. An attractive single variety.

72893 to 72895. Shogetsu. Tree of medium height with a spreading, rather flat crown; buds deep pink, truncate; flowers double, with nearly white centers, tinged with pink on the edges, up to 2½ inches across, in clusters of two to four. An excellent double light-pink variety.

72893. Tree 4 in rows 136, 137, and 138, old test orchard.

72894. Tree 3 in rows 148 and 149, old test orchard.

72895. Tree 5 in rows 139, 142, and 148, old test orchard.

72896. FRAGARIA sp. Rosaceae. Strawberry.

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co. Received March 4, 1927.

Tardive de Léopold. Fruit broad, lobed, bright red, very large; flesh firm, scarlet. A very late variety particularly adapted for culture on a large scale.

72897 to 72899. FRAGARIA spp. Rosaceae. Strawberry.

From Berlin, Germany. Plants presented by L. Späth. Received December 28, 1925. Numbered March, 1927.

72897. FRAGARIA sp.

Aprikose. A medium early variety; fruits very large, handsome carmine red; flesh pink, with apricot flavor.

72898. FRAGARIA sp.

Deutsch Ebern. A very productive early variety. Fruits of medium size, beautifully colored, with a mild delicate flavor. They ship well because of the firm flesh.

72899. FRAGARIA sp.

Garteninspektor A. Koch. An early variety with very large fruits which are especially good for preserving.

72900 and 72901.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received March 8, 1927.

72900. CANARIUM PIMELA Koen. Balsameaceae.

No. 1013. Lohkongtung. November 13, 1926. *Yeung tai tau oo laam.* A tropical tree which produces edible oblong, olive-like fruits about 2 inches long. The Chinese pickle these fruits and use them as a relish.

For previous introduction see No. 65834.

72901. RAPHANUS SATIVUS L. Brassicaceae. Radish.

No. 1014. Linchow, Kwangtung Province. This plant is grown as a winter crop throughout the Linchow district, and is considered by the Chinese to have a beneficial effect upon the soil.

72902. COMBRETUM sp. Combretaceae.

From Sierra Leone, West Africa. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 12, 1927.

No. 1135. Collected on the bank of the River Taia, near Mano. January 21, 1927. A vigorous climbing tropical African shrub with pendent clusters of unusually large 4-winged pods.

72903 and 72904. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Grenada, British West Indies. Seeds presented by W. O'Brien Donovan, officer in charge, Agricultural Department. Received March 14, 1927.

Locally grown seeds.

72903. Colored pigeon pea.

72904. White pigeon pea.

72905 to 72907. CORYLUS AVELLANA L. Betulaceae. Filbert.

From Saonara, Padova, Italy. Plants purchased from Fratelli Sgaravatti. Received March 21, 1927.

Italian-grown varieties.

72905. *A frutto grosso (macrocarpa).*

72906. *A pellicola bianca (fructus albo).*

72907. *A pellicola rossa (fructus rubro).*

72908. BENINCASA HISPIDA (Thunb.)
Cogn. Cucurbitaceae. Wax gourd.

From Luchowfu, Anhwei, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 14, 1927.

No. 783. October 11, 1926. *Tung kwa*. A variety planted here in April and ready to use in June.

72909. RUBUS sp. Rosaceae.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February 24, 1927.

No. 960. En route from Kian to Taaihop, Kiangs. A rather coarse, subtropical bramble with roundish, three-lobed, rugose leaves, gray beneath, and black edible berries of good flavor, produced in large pendulous clusters.

72910 and 72911. RUBUS spp. Rosa-ceae.

From Bogota, Colombia. Seeds purchased from Harvey Berman. Received March 10, 1927.

72910. RUBUS GLAUCUS Benth.

Andes raspberry.

A South American raspberry, native to the mountainous regions of Ecuador and neighboring countries, which is a half-climbing shrub, up to 10 feet in height. The oblong-oval fruits, an inch long, are light or dark red.

For previous introduction see No. 62690.

72911. RUBUS sp.

A South American bramble from the mountains of Colombia, said to bear berries 2 inches long.

72912 to 72920.

From Calcutta, India. Seeds presented by Percy Lancaster, secretary, Agricultural and Horticultural Society of India. Received March 12, 1927.

72912. PHASEOLUS CALCARATUS Roxb. Fa-baceae. Rice bean.

Mashiyam.

72913 and 72914. PHASEOLUS VULGARIS L. Fa-baceae. Common bean.

72913. A black French variety.

72914. A white French variety.

72915 to 72920. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceae. Soy bean.

72915. *Barmali Bhatmay*.

72916. *Kaloo Bhatmas*. A black variety.

72917. Brown variety.

72918. Green variety.

72919. Small, brown variety.

72920. White variety.

72921. MEDICAGO SATIVA GAETULA Urban. Fabaceae.

From Algiers, Algeria, Africa. Seeds presented by Dr. L. Trabut, Government botanist. Received March 12, 1927.

A small-leaved herbaceous perennial with white flowers. Native to North Africa.

72922 to 72945. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Nagpur, Central Provinces, India. Seeds presented by D. Youngman, Government economic botanist. Received March 12, 1927. Locally developed Indian varieties.

72922. No. 27. 72934. No. 94.

72923. No. 33. 72935. No. 98.

72924. No. 34. 72936. No. 106.

72925. No. 35. 72937. No. 107.

72926. No. 38. 72938. No. 108.

72927. No. 45. 72939. No. 109.

72928. No. 66. 72940. No. 113.

72929. No. 78. 72941. No. 143.

72930. No. 80. 72942. No. 145.

72931. No. 81. 72943. No. 145-b.

72932. No. 82. 72944. No. 146-b.

72933. No. 90. 72945. No. 147.

72946 and 72947.

From West Africa. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 12, 1927.

72946. TETRAPLEURA TETRAPTERA (Schum.) Taub. (T. thonningii Benth.). Mimosaceae.

No. 1133. En route from Konakry to Fore Carial. January 16, 1927. A large tropical West African forest tree suitable as a shade tree, producing 4-angled winged pods about a foot long, which contain sugar, a little saponin, but no alkaloid; these pods are ground and made into soup and also used for washing purposes.

For previous introduction see No. 62918.

72947. BAISSEA MULTIFLORA A. DC. Apocynaceae.

No. 1130. En route from Georgetown to Kuntaur, Gambia. January 9, 1927. An ornamental pink and white flowered climber growing over the top of a tall forest tree in a dry area.

72948 and 72949. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Nassau, Bahamas, British West Indies. Seeds presented by Dr. Charles S. Dolley, President, Bahamas Plantations Co. Received March 15, 1927.

Locally grown seeds.

72948. No. 1. 72949. No. 2.

72950. CARYOTA CUMMINGII Lodd. Phoenicaceae. Palm.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture. Received March 15, 1927.

An ornamental Philippine palm about 6 meters high and of erect habit, with few, spreading bipinnate leaves. The small fruits are globose.

72951. HIBISCUS CANNABINUS L. Malvaceae. Ambari hemp.

From Pusa, Bihar and Orissa, India. Seeds presented by Dr. F. J. F. Shaw, Imperial economic botanist, through C. R. Ball, Bureau of Plant Industry. Received March 16, 1927.

Seeds of type 3 grown at Pusa.

For previous introduction see No. 60958.

72952. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Reduit, Mauritius. Seeds presented by H. A. Tempany, Director of Agriculture. Received March 18, 1927.

A local variety known as *Embrevade dholl*.

72953 to 72958. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Bangalore, India. Seeds presented by H. C. Javaraya, superintendent, Mysore Government Gardens. Received March 18, 1927.

Locally developed varieties.

72953. *Bela*. 72956. *Kadur*.

72954. *Hassan*. 72957. *Kampur*.

72955. *Islampur*. 72958. *Tumkur*.

72959 and 72960. DIOSPYROS KAKI L. f. Diospyraceae. Kaki.

From Yokohama, Japan. Plants purchased from the Yokohama Nursery Co. Received March 24, 1927. Notes from the Yokohama Nursery 1926-27 catalogue.

72959. *Delicious*. Fruits large and sweet.

72960. *Twentieth Century*. A new variety with large flat fruits, sweet and juicy.

72961 to 72966.

From Orleans, France. Plants obtained from Léon Chénault. Received March 24, 1927.

72961. *MERATIA PRAECOX* (L.) Rehd. and Wils. (*Chimonanthus fragrans* Lindl.). Calycanthaceae. Wintersweet.

Variety *luteus grandiflorus*. An ornamental shrub, with bright-green oblong leaves 3 to 5 inches long and large very fragrant yellow flowers. Native to China and Japan.

72962. *FOKIENIA HODGINSII* (Dunn) Henry and Thomas. Pinaceae.

A coniferous tree, up to 40 feet in height, native to southeastern China, and probably adapted for cultivation only in the southern United States.

72963. *MELIOSMA WALLICHII* Planch. Sabiaceae.

A small subtropical tree, with stiff pinnate leaves up to 3 decimeters long and large panicles of small whitish flowers. Native to the Himalayas.

72964. *PSEUDOTSUGA WILSONIANA* Hayata. Pinaceae.

A tall handsome evergreen Chinese tree with shining red-brown bark and rather stout linear leaves up to 4.5 centimeters.

72965. *PSEUDOTSUGA JAPONICA* (Shiras.) Beiss. Pinaceae.

A hardy evergreen Japanese tree 30 meters or less in height, with dull reddish-brown bark and bright shining-green linear leaves about 2 centimeters long.

72966. *STYRAX DASYANTHUM* Perkins. Styracaceae. Snowbell.

An ornamental Chinese shrub or small tree, up to 8 meters high, with oblong-elliptic leaves about 7 centimeters long and showy white flowers in slender racemes.

For previous introduction see No. 61994.

72967 and 72968. CHAYOTA EDULIS Jacq. (Sesuvium edule Swartz). Cucurbitaceae. Chayote.

From Cordoba, Vera Cruz, Mexico. Fruits presented by C. M. Holmes. Received March 26, 1927.

Locally grown varieties.

72967. Small fruits.

72968. White fruits.

72969. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Grenada, British West Indies. Seeds presented by W. O'Brien Donovan, officer in charge, Agricultural Department. Received March 24, 1927.

A local dwarf variety with colored seeds.

72970 to 72977.

From Nancy, France. Seeds presented by Dr. Edmond Gain, director, botanic garden. Received March 16, 1927.

72970 to 72974. *ERODIUM* spp. Geraniaceae. Heronbill.

72970. *ERODIUM ARABICUM* Decaisne.

A tender herbaceous plant, native to Arabia.

72971. *ERODIUM CICONIUM* (Jusl.) Willd.

For previous introduction and description see No. 72632.

72972. *ERODIUM MANESCAVI* Coss.

For previous introduction and description see No. 72802.

72973. *ERODIUM SALZMANNI* Bois. and Reut.

A herbaceous perennial, native to southern Spain.

72974. *ERODIUM SEBACEUM* Delile.

A herbaceous perennial about 15 inches high, native to southeastern Europe.

72975 to 72977. *ONOBRYCHIS* spp. Fabaceae.

72975. *ONOBRYCHIS CRISTA-GALLI* (L.) Lam.

An annual or biennial ascending plant, 8 to 20 inches high, with pinkish purple flowers. Native to dry places in the Mediterranean region.

For previous introduction see No. 66529.

72976. *ONOBRYCHIS VAGINALIS* Meyer.

A herbaceous perennial with yellow flowers, native to the Caucasus.

72977. *ONOBRYCHIS VULGARIS* Hill (*O. viciaefolia* Scop.).

A herbaceous perennial, 1 to 2 feet high, with pink flowers. Native to Europe.

72978 to 72981.

From Haiti. Seeds obtained through O. F. Cook, Bureau of Plant Industry. Received March, 1927.

72978. *MANIHOT GLAZIOVII* Muell. Arg. Euphorbiaceae. Ceara rubber.

Locally grown seeds.

For previous introduction see No. 64037.

72979. *THEOBROMA CACAO* L. Sterculiaceae. Cacao.

Locally grown seeds.

72978 to 72981—Continued.

72980. HEVEA BRASILIENSIS (H. B. K.) Muell. Arg. Euphorbiaceae. **Para rubber tree.**
Locally grown seeds.

For previous introduction see No. 67528.

72981. MANIHOT DICHOTOMA Ule. Euphorbiaceae.

Locally grown seeds of a Brazilian rubber-producing tree closely related to the Ceara rubber tree (*Manihot glaziovii*).

For previous introduction see No. 39338.

72982. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae.

Common wheat.

From Pusa, Bihar and Orissa, India. Seeds presented by Dr. F. J. F. Shaw, Imperial economic botanist, through C. R. Ball, Bureau of Plant Industry. Received March 16, 1927.

Pusa 52. A locally developed variety.

72983. CERATOSTIGMA WILLMOTTIANUM Stapf. Plumbaginaceae.

From Philadelphia, Pa. Plants presented by Mrs. J. Norman Henry. Received March 29, 1927.

A half-woody perennial, 1 to 3 feet high, with angled purplish stems, bristly leaves, and cobalt-blue flowers an inch wide, borne successively in a large head. Native to western China.

72984. BELOU MARMELOS (L.) Lyons (*Aegle marmelos* Correa). Rutaceae. **Bel.**

From Kandy, Ceylon. Fruits presented by Dr. Andreas Nell. Received March 25, 1927.

A small spiny tropical Asiatic tree which bears edible fruits; these are globular, about 3 inches in diameter, with hard shells. The glutinous edible pulp is aromatic and is supposed to have a special tonic effect.

72985. CHAYOTA EDULIS Jacq. (*Sechium edule* Swartz). Cucurbitaceae.

Chayote.

From Cordoba, Vera Cruz, Mexico. Fruits presented by C. M. Holmes. Received March 26, 1927.

Locally grown fruits.

72986. SICANA ODORIFERA (Vell.) Naud. Cucurbitaceae. **Casabanana.**

From Gaston, Oreg. Seeds presented by S. H. Carnahan. Received March 24, 1927.

A subtropical ornamental cucurbitaceous vine producing large fruits, a foot or more long, which are edible but insipid.

For previous introduction see No. 43440.

72987. CAJANUS INDICUS Spreng. Fabaceae. **Pigeon pea.**

From Akkra, Gold Coast, Africa. Seeds presented by G. H. Knowles, Director of Agriculture. Received March 25, 1927.

Locally grown seeds.

72988. DACTYLIS GLOMERATA L. Poaceae. **Orchard grass.**

From Wellington, New Zealand. Seeds presented by A. H. Cockayne, director of the field division, Department of Agriculture. Received March 25, 1927.

Akaroa, a selected strain from New Zealand.

72989. RUBUS MACROCARPUS Benth. Rosaceae. **Colombian blackberry.**

From Bogota, Colombia. Seeds purchased from Harvey Berman. Received March 22, 1927.

A rather coarse-growing blackberry, with stout canes about 10 feet long, large rough leaves, and deep maroon-red juicy berries up to 2 inches in length. Native to moist regions in the Andes, at altitudes of 8,500 to 9,500 feet.

For previous introduction see No. 61065.

72990 and 72991. EUCALYPTUS spp. Myrtaceae.

From Garbeen, near Cairns, northern Queensland, Australia. Seeds presented by J. A. Hamilton. Received March 24, 1927.

72990. EUCALYPTUS CORYMBOSA J. E. Smith.

A tall tree with creamy white flowers from the warmer and damper parts of Australia. It should make a good honey plant.

72991. EUCALYPTUS POPULIFOLIA Desf.

A timber tree of compact habit, native to Australia, said to be the best honey plant in that country. The wood of this tree is very durable.

72992 to 73012.

From West Africa. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March, 1927.

72992. AMOMUM MELEGUETA Roscoe. Ziniberaceae.

No. 1182. Obtained in a native market at Moliko, Cameroon. February 12, 1927. A gingerlike bushy perennial, 5 feet high, with small golden seeds which are used as spice.

72993. COMBRETUM GRANDIFLORUM Don. Combretaceae.

No. 1101. Bathurst, Gambia, January 11, 1927. An ornamental climbing shrub producing long flowering branches of brilliant red flowers in closely packed spikes. It is native to Upper Guinea and the Congo region and is adapted to hot muggy summers and very dry winters.

72994. ADENOCARPUS MANNII Hook. f. Fabaceae.

No. 1202. February 17, 1927. A tropical ornamental shrub 7 feet high with yellow flowers half an inch across, found in black volcanic soil above the timber line on the Cameroon Mountain.

72995. CLITORIA LAURIFOLIA Poir. (*C. cajaniifolia* Benth.). Fabaceae.

No. 1165. Botanic Garden, Victoria, Cameroon. February 10, 1927. An erect herbaceous tropical leguminous plant said to have white flowers. It may prove valuable as a cover crop.

For previous introduction see No. 62904.

72996. (Undetermined.)

No. 1141. January 28, 1927. A tropical euphorbiaceous shrub growing on sandy land near the seashore, en route from Monrovia to Mount Barclay, Liberia. It has long pendent branches loaded with seed pods; the copious flow of latex is very sticky and may contain rubber.

72997. (Undetermined.)

No. 1203. A tropical leguminous shrub about 3 feet high, found in black loamy soil just above the timber line on the Cameroon Mountain, near Buea Cameroon.

72992 to 73012—Continued.

72998. *ALBIZZIA BROWNEI* Walp. Mimosaceae.

No. 1126. Jala Jungle, Sierra Leone. January 20, 1927. An ornamental tropical tree, 30 feet high, with feathery foliage.

72999. *ALCHORNEA CORDIFOLIA* (Schum.) Muell. Arg. (*A. cordata* Benth.). Euphorbiaceae.
Christmas bush.

No. 1131. Jala Jungle, Sierra Leone. January 20, 1927. The "Christmas bush," so-called because of the long pendent spikes of brilliant red berries produced at Christmas time. It is a tropical ornamental shrub native to West Africa.

73000. *CASSIA BRASILIENSIS* Hort. Caesalpiniaceae.

No. 1205. Botanic Garden, Victoria, Cameroon. A small tropical tree with deep-green foliage and yellow flowers.

73001. *CHAETOCHELOA* sp. Poaceae. Grass.

No. 1208. Near Ekoua, Cameroon. February 18, 1927. An ornamental broad-leaved grass.

73002 and 73003. *CHRYSOPHYLLUM CAIMITO* L. Sapotaceae. Caimito.

For previous introduction see No. 67532.

73002. No. 1161. Botanic Garden, Victoria, Cameroon. February 9, 1927. A white-fleshed variety of the star apple whose fruits attain a large size, 3½ inches in diameter.

73003. No. 1201. Buea, Cameroon. February 13, 1927. A purple-fleshed variety of the star apple. These seeds are from a fruit 4 inches in diameter.

73004. *CRACCA VOGELII* (Hook. f.) Kuntze (*Tephrosia vogelii* Hook. f.). Fabaceae.

No. 1184. Victoria, Cameroon. February 17, 1927. *Moom* or *Kassa*. A leguminous shrub with velvety leaves and pods which is used as fish poison. A dam is made in a stream, and the macerated branches of this bush are thrown into the water. Men then wade into the stream, stirring up the water, and after a few minutes the dead fish rise to the surface. The skin on the men is affected somewhat by the poison. The macerated leaves are also used to cure skin diseases of dogs and goats.

For previous introduction see No. 66250.

73005. *CROTALARIA RETUSA* L. Fabaceae.

No. 1160. Between Victoria and Bota, Cameroon. February 9, 1927. A tropical leguminous plant possibly resistant to salt spray.

73006. *CYCLANTHERA EXPLODENS* Naud. Cucurbitaceae.

No. 1204. Buea, Cameroon. February 12, 1927. A tropical American cucurbitaceous vine whose fleshy pods break open suddenly to scatter the seeds.

73007. *DRYOPHLOEUS* sp. Phoenicaceae. Palm.

No. 1169. Botanic Garden, Victoria, Cameroon. February 10, 1927. A rather dwarf clump palm producing beautiful clusters of scarlet fruits which are half an inch long and have a sweet taste.

73008 and 73009. *ELAEIS GUINEENSIS* Jacq. Phoenicaceae. African oil palm.

73008. No. 1196. Victoria, Cameroon. February 17, 1927. A variety distinguished by having a large, thick-shelled seed with a thin but oily pericarp.

72992 to 73012—Continued.

73009. Nos. 1193 and 1197. February, 1927. Mixed seeds obtained near Victoria, Cameroon. The Cameroon name is *lisombe*.

73010. *ELAEOPHORBA DRUPIFERA* (Thonn.) Stapf. Euphorbiaceae.

No. 1155. Santa Isabel, Fernando Po Island, West Africa. A tropical fleshy-leaved tree 30 feet high which is drought resistant. It contains a large amount of latex and may be a source of rubber.

73011. *ERYTHRINA GLAUCA* Willd. Fabaceae. Coral tree.

No. 1168. Botanic Garden, Victoria, Cameroon. February 16, 1927. A stately tree from tropical America with large leaves and showy orange flowers.

73012. *FICUS* sp. Moraceae. Fig.

No. 1172. Cameroon Mountain. February 10, 1927. A large tropical tree with light-green leaves and an abundance of fruits in long clusters.

73013. *MAGNOLIA DELAVAYI* Franch. Magnoliaceae.

From Orleans, France. Plants presented by Léon Chénault. Received March 24, 1927.

An evergreen ornamental tree, up to 10 meters high, with dull-green oblong leaves growing to a length of 30 centimeters and white flowers 20 centimeters in diameter. Native to southwestern China.

73014 to 73027.

From West Africa. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March, 1927.

73014 to 73016. *MEIBOMIA* spp. Fabaceae.

73014. *MEIBOMIA* sp.

No. 1166. Botanic garden, Victoria, Cameroon. February 10, 1927. An attractive blue-flowered species 3 feet high.

73015. *MEIBOMIA* sp.

No. 1175. Between Buea and Moyuca, Cameroon. February 12, 1927. A tall leafy plant which may prove useful as a cover plant.

73016. *MEIBOMIA* sp.

No. 1198. Between Buea and Signal Point, Cameroon. February 12, 1927. A species which looks promising as a cover plant.

73017. *MORINDA CITRIFOLIA* L. Rubiaceae. Indian mulberry.

No. 1177. Botanic garden, Victoria, Cameroon. February 10, 1927. An ornamental tropical shrub with large white juicy fruits.

For previous introduction see No. 36880.

73018. *OCIMUM VIRIDIFLORUM* Roth. Menthaeae.

No. 1167. A tropical herbaceous bushy perennial with an aromatic odor, producing small greenish flowers.

73019. *PENNISSETUM* sp. Poaceae. Grass.

No. 1209. February 17, 1927. A tall silvery bunch grass growing abundantly on the Cameroon Mountains near the timber line, at an altitude of about 9,000 feet.

73014 to 73027—Continued.**73020. RUBUS sp. Rosaceae. Raspberry.**

No. 1187. Buea, Cameroon. February 12, 1927. A moisture-loving species growing in the shade at an altitude of 3,000 feet.

73021. SPOROBOLUS sp. Poaceae. Grass.

No. 1207. February 18, 1927. A bunch grass 2 feet high growing in black loamy volcanic soil on the Cameroon Mountains at an altitude of 9,000 feet.

73022. VIGNA sp. Fabaceae.

No. 1159. Between Victoria and Bota, Cameroon. February 9, 1927. A leguminous herb from tropical Africa.

73023. VIGNA sp. Fabaceae.

No. 1199. February 20, 1927. A beautiful deep-blue flowered climber growing at Ekoua, Cameroon Mountains.

73024. (Undetermined.)

No. 1158. From the jungle near the Taia River, Mano, Sierra Leone. January 22, 1927. A tall large-leaved gingerlike plant which is excellent as a border for pools.

73025. (Undetermined.)

No. 1185. A tropical vine with white and lavender flowers, found hanging from the rocks on the road between Victoria and Bota, Cameroon. February 9, 1927.

73026. (Undetermined.)

No. 1191. Probably collected in Cameroon. A striking climber which has flowers with corollas that are white outside and purple inside or orange variegated with purple. The fruits are eaten raw, and the stems are used as tying material. This climber is called *gumatetei* by the natives.

73027. (Undetermined.)

A tropical West African climber found near the United Brotherhood Mission at Tiama, near Jala, Sierra Leone. It is a possible source of rubber.

73028 to 73030. PRUNUS MUME Sieb. and Zucc. Amygdalaceae.**Japanese apricot.**

From China. Bud wood obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received February 23, 1927.

The fruits of this group, *tsing mui*, are so sour that they are rarely eaten fresh. The most common method of treatment is to place them in large wooden vats having a capacity of nearly 400 cubic feet, with salt at the rate of 1.3 pounds of salt to 10 pounds of fruit. By means of mats and stones the fruits are weighted down and kept submerged for about 10 days. They are then spread out on bamboo trays and dried in the sun. When thoroughly dried, they may be kept indefinitely. They are used to make a great variety of confections, most of which have licorice and saccharine as their chief flavoring principles.

73028. No. 984. Lingnan University orchard. January 5, 1927. Wong mui. In the markets the name wong mui (yellow mui) is applied to those that have turned yellow in ripening.

For previous introduction see No. 64574.

73029. No. 987. Lingnan University orchard. January 5, 1927. Ngh shue mui.

For previous introduction see No. 64570.

73028 to 73030—Continued.

73030. No. 988. Hang mui chi. Lingnan University orchard. January 5, 1927.

For previous introduction see No. 64582.

73031. LEUCADENDRON ARGENTEUM R. Br. Proteaceae.

From Cape Town, South Africa. Seeds presented by R. H. Compton, director, national garden. Received March 29, 1927.

A handsome evergreen South African tree found native only in the vicinity of Cape Town, where it is known as the witteboom or silver-leaf pine. The narrow white-silky leaves, up to 7 inches long, are commonly used as curios and for bookmarks.

For previous introduction see No. 57796.

73032. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Saigon, Cochinchina. Seeds presented by I. Robin, chief of agricultural service. Received March 31, 1927.

Locally grown variety with yellow and purple flowers; seeds edible.

73033. CALLITRIS ROBUSTA (A. Cunn.) R. Br. Pinaceae.

From Carbeen, near Cairns, northern Queensland, Australia. Seeds presented by J. A. Hamilton. Received March 24, 1927.

A tall coniferous timber tree, up to 70 feet, native to Australia, where it grows on poor stony soil. The timber is durable and handsomely grained and is used for making furniture.

73034 to 73045.

From Hangchow, Chekiang Province, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received March 31, 1927.

73034 to 73037. BRASSICA spp. Brassicaceae.**73034. BRASSICA sp.**

No. 1019. *Ai keuk pak tsoi*. The seeds are planted here in the autumn.

73035. BRASSICA sp.

No. 1020. *Suet lei kai*. Seeds planted during the spring and autumn.

73036. BRASSICA sp.

No. 1021. *Tap tai tsoi*. Seeds planted in the autumn.

73037. BRASSICA sp.

No. 1022. *Kai tsoi*. Seeds planted in the autumn.

73038. CITRULLUS VULGARIS Schrad. Cucurbitaceae. Watermelon.

No. 1027. *Ma ling kwa*.

73039 to 73045. CUCUMIS MELO L. Cucurbitaceae. Melon.

73039. No. 1023. Tsing pei luk yuk.

73040. No. 1024. Wong kam kwa.

73041. No. 1025. Suet kwa.

73042. No. 1026. Tso i kwa.

73043. No. 1028. Lei kwa.

73044. No. 1029. Hop i kwa.

73045. No. 1030. Shau kwa.

73046. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceae.

Common wheat.

From Uruguay. Seeds presented by H. V. de Pena, first secretary, Legation of Uruguay, Washington, D. C. Received February 8, 1927.

Artigas. A Uruguayan variety.

73047. FICUS sp. Moraceae. Fig.

From West Africa. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 25, 1927.

No. 1180. En route from Buea to Moyuco, Cameroon. February 12, 1927. A tropical tree with small edible brown fruits about an inch in diameter produced in hanging clusters 6 feet long.

73048 and 73049. QUERCUS spp. Fa-Oak.
gaceae.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received January 10, 1927.

73048. QUERCUS sp.

No. 8866. November 20, 1926. From trees on the mountain side near the Fa Hua Ssu Temple, Haitzu, Chihli Province.

73049. QUERCUS sp.

No. 8867. November 20, 1926. A tall-growing chestnut-leaved oak found near the Fa Hua Ssu Temple, Haitzu, Chihli Province. The bark looks different from that of the other oaks, and this variety appears to be very interesting.

For previous introduction see No. 72163.

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 Wintersweet. See *Meratia praecox*.
 Wisteria sp. See *Kraunhia* sp.
 Witch-hazel, Chinese. See *Hamamelis mollis*.
 Japanese. See *H. japonica*.
Xylosma sp., 71989.
Zea mays, 70953, 71381-71386, 72253-72255.
Zinziber officinale, 72730.
Ziziphos spina-christi, 70954.

ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

September 9, 1929

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